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From Original Documents in the Archives of the French War Office.

By

Frederic Louis Huidekoper.

Journal of the Military Service Institution for September-October, 1907,

Pages 207-220.

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SEPTEMBER No. 149

JOURNAL OF THE MILITARY SERVICE INSTITUTION

1878 1907

THE ARMY A SCHOOL ❦ ARMY IN CUBA ❦ MILITARY INTELLIGENCE ❦ JAPANESE INFANTRY ❦ RIFLE IN AUSTRALASIA ❦ FORTRESSES IN WAR ❦ MARCHES IN TROPICS ❦ RECRUIT AND RIFLE ❦ NAPOLEON ON RHINE ❦ RELIEF FOR INFANTRY ❦ TYPES AND TRADITIONS ❦ COMMENT

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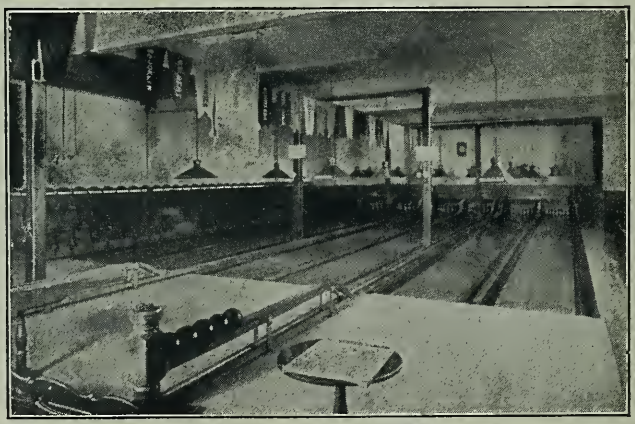

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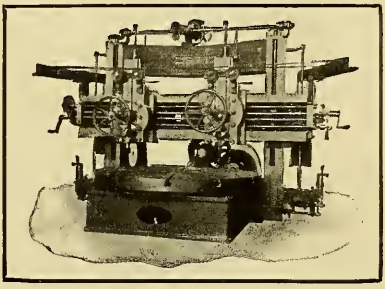

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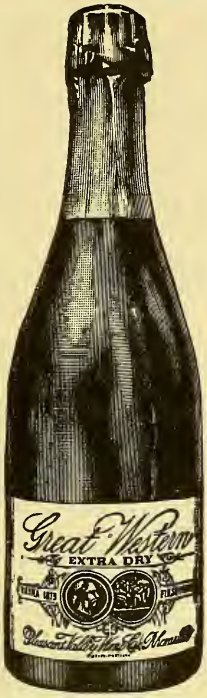

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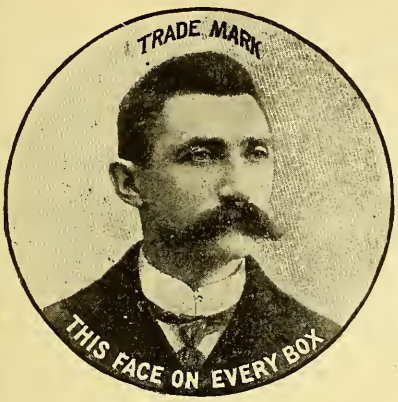

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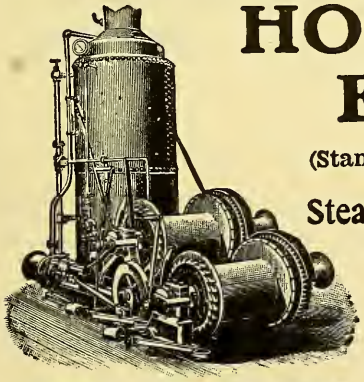

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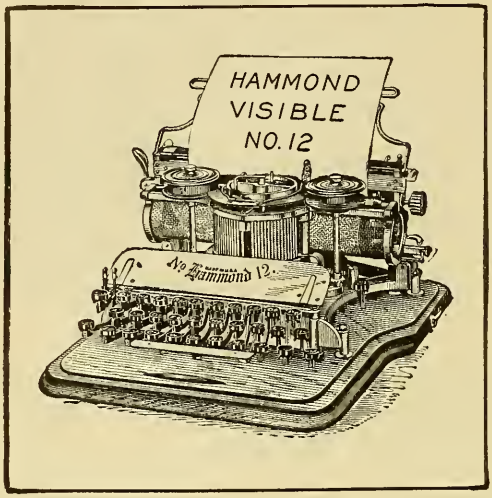

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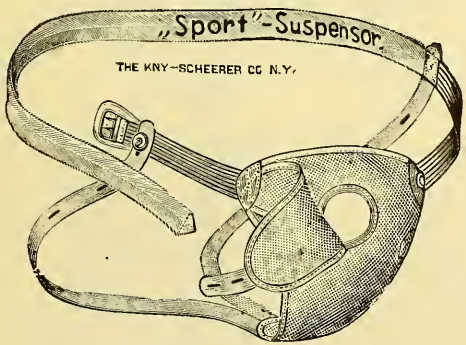

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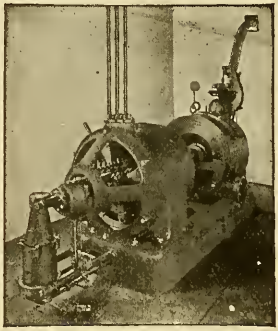

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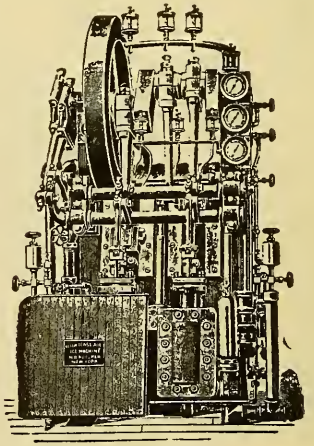

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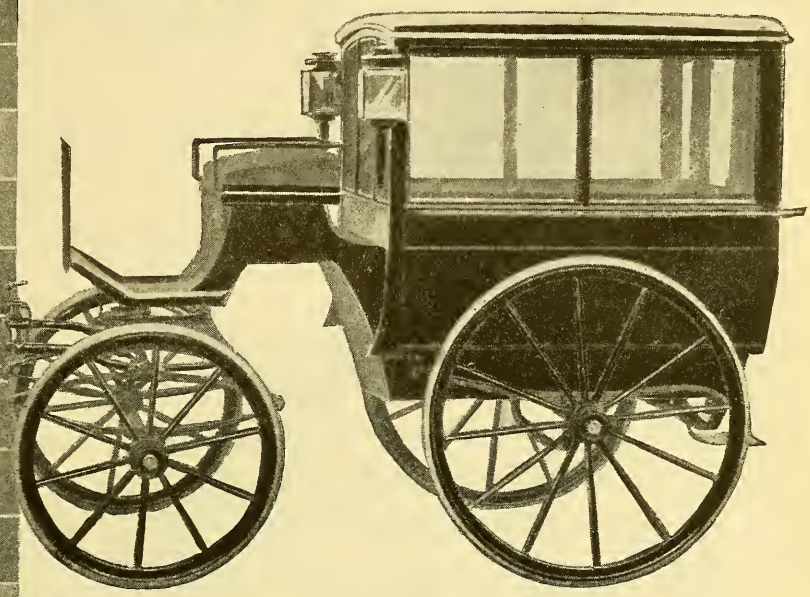

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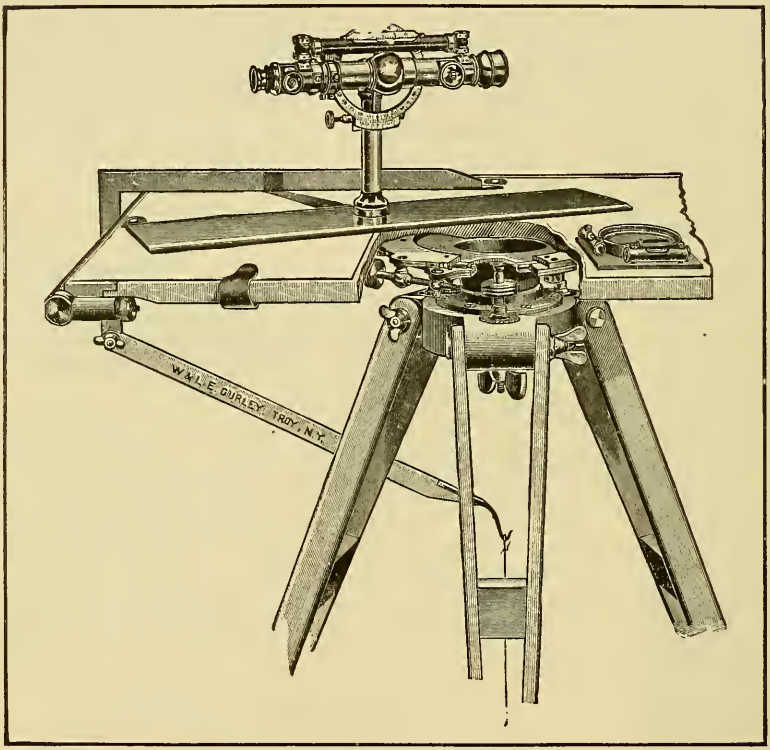

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1206

"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because Peace is enervating and no man is wise enough to foretell when soldiers may be in demand again."—General Sherman.

Vol. XLI. SEPTEMBER-OCTOBER, 1907. No. CXLVIV.

OUR ARMY A SCHOOL.

By Captain MATTHEW E. HANNA, Third Cavalry.

IT is not probable that the present ratio of the enlisted strength of the Regular Army to the whole population of the United States will soon be greatly increased. The prejudice against a large standing army that sprang into vigorous life in the forcing bed of colonial oppression has taken such deep root in the minds of the people of this country during the century and a quarter in which it has been carefully nursed, that it will require a stronger wind than soon will blow to tear it from its bed. Those of us who have an intimate personal knowledge of the spirit that pervades the army know that it does not now in any way constitute a menace to the welfare of the country and would not were it increased many fold; but it is useless for us to rant against this prejudice or attempt to break it down by mere disclaimer of its justice. On the contrary, wisdom suggests that it be accepted as an existing national characteristic, a legacy passed down to us from the days of 1776, and inseparably connected with the oppressions, sufferings and sacrifices of our forefathers.

It is not too much, perhaps, to hope that time and overpowering circumstances may change all this, but it is as yet scarcely within the range of safe prophesy. The ever widening sphere of our national influence and activities may eventually compel the people of this country to risk, as the lesser of two evils, the danger they have been taught to see in a powerful permanent

military establishment. It may be, but God forbid, that our eyes will not be opened until a foreign foe has turned the dogs of war loose on our shores and humiliated us with defeat. It is not probable, however, that any such dire calamity will overtake us; when such an emergency does arise, Yankee pluck, luck, enterprise, or whatever you may call it, will probably sooner or later be equal to the danger and triumph in the end. But at what stupendous cost of life and treasure.

Which is the better; to maintain a military establishment commensurate with the dangers that seem probable, with the attendant menace, real or fancied, to republican institutions, but with the certainty that wars which might otherwise be waged will be avoided and that those which are waged will be quickly and victoriously terminated, or to place our confidence in hastily raised, untrained levies, with the increased probability of useless wars, the certainty of their being more prolonged, and the uncertainty of their final outcome? These are two alternative propositions concerning which we might speculate indefinitely and never reach an answer satisfactory to the whole American people. Who can tell what the future has in store for us? The all-impelling force of circumstances may constrain us, however reluctantly, to abandon the policy of a century or two, and become a nation of soldiers. But that day appears still far away and we shall most probably have at least one more war before it dawns. Such preparations as can be made for that war in time of peace will have to be made under conditions essentially as they exist to-day. The necessity for a navy and for seacoast defenses appeals, at spasmodic intervals, to the American people, and we may see those arms of the national defense increased from time to time. But not so with the cavalry, field-artillery and infantry.

Accepting this as a logical deduction from the temperament of our people, the object of this paper is to suggest a plan by which our present little field-army of about 50,000 men may prepare the country for the strongest possible defense on the immediate outbreak of war. This plan does not attempt to work a miracle and place in the field an armed host suddenly raised, equipped, drilled and trained, and all wrought from nothing. It merely proposes to take the conditions as they are, make the most of them, and adapt them as far as possible to our needs.

If war were to break out to-morrow, there would be immediately available for the defense of the main land of the United States that portion of the Regular Army not serving in Alaska or

the Insular possessions. This force might be expanded in a short time by regular enlistments to nearly double its peace-time strength. Our only remaining source from which to draw large numbers of men with some previous military training is the Organized Militia. It is not the purpose of this paper to discuss the merits of this force; it is sufficient to say that in the nation's extremity we will be thankful for such organized bodies to draw upon for the first line of defense, and will only be sorry that their number is not greater. After the Regular Army and Organized Militia have been mobilized, we must needs resort for additional forces to the Volunteer, without whom in any great and protracted war the country cannot be saved, but who, before he is at all fit to take the field, must have weeks and months of training. In any case the task of saving the country from an invading foe will fall upon the War Department; and there also lies the responsibility.

How are we to perform the stupendous task of recruiting, equipping, training and mobilizing the hundreds of thousands of volunteers that will be needed in any great struggle, and what preparations can be made in time of peace, under existing conditions, for hastening the training of this large volunteer force? It is with the latter part of this question that I am here concerned. As suggested above, our immediately available first line probably will not exceed 75,000 men; a mere advance guard of the larger force that will be needed. At best, troops will be rushed to the front illy equipped for the serious task of war and with little or no instruction in the simplest duties of a soldier. Before a determined and aggressive enemy we will indeed be fortunate if such a war as we have here in mind does not open under a cloud of defeat and disaster which will hang over the country until experience under fire has made seasoned soldiers of some, and time has permitted us to make trained soldiers of others farther to the rear and away from the turmoil of the battle-field. On all sides haste will be the watchword. The cry will be for volunteers, more volunteers, and yet more volunteers to sacrifice before the advancing foe, until time and experience swells our ranks with sufficient trained men to check and roll back the enemy. In this, the nation's hour of need, every trained soldier will be worth his weight in gold, for he will be able to teach fifty who are untrained. There will be no lack of volunteers; the young men of our country can be depended upon to enlist by hundreds of thousands if the emergency so demands. But the need will

be for teachers; for men who have at some previous time had sufficient military training to enable them to instruct others. The greater the number of such men scattered throughout the country when this emergency arises, the sooner may the raw volunteers be sent to the front with some semblance of military training.

From whence will these men come? Certainly not from the enlisted or commissioned strength of the Regular Army in any great numbers, nor yet from the Organized Militia, for every man of these will have the work of four men to do at the front. The answer appears to be that they must be in every section of the country when war is declared, and it must be a part of our scheme of defense to place them there in time of peace. In other words, under the peculiar military system which we are compelled to continue in this country our Regular Army is above all things a school, and the more thoroughly all else can be subordinated to this essential idea in its administration, the more nearly will it come to fulfilling the difficult task imposed upon it. Every man that has served an enlistment in our army becomes a valuable military asset on the outbreak of war. Every such man is at once thought of as a possible instructor, and the greater the number of such men scattered throughout the country, the sooner a volunteer force may be prepared for the field. Of course they will not all enlist or receive commissions, but this fact is still another argument why their number should be as great as it is possible to make it.

Is the number of such men that are being sent abroad from the army yearly as great as it might be? I believe not, and it is my purpose to suggest a method by which this number may be increased. The present enlisted strength of the army, exclusive of non-commissioned officers and certain special classes, is about 40,000 men. I do not wish, nor have I the data at hand to enable me to deal accurately with statistics, but it is safe to say that of this number about 5,000* reenlist yearly and approximately 8,000 are discharged yearly. It is this latter number that we wish to increase. How is it to be done without materially impairing the efficiency of the regular establishment? The answer is by prohibiting reenlistments, except of non-commissioned officers, whose reenlistment will be encouraged by increased pay, and by shortening the period of enlistment of privates to two years.

*In the entire army there were 13,000 reenlistments in 1905, 6300 in 1904, and 6300 in 1903.

There are about 40,000 privates in the army as organized today. If one-half of this number is discharged yearly an army of 1,000,000 men will be scattered throughout the country within five years. The majority of our recruits are young men but little more than twenty-one years of age, many of them less. Ten years after they have completed their single enlistment they will be in the very prime of their manhood. Fifteen years from the termination of such enlistment they are still in the flush of life, and at the end of twenty years they will not be so old but what their blood will quicken at the very thought of war. Ten years of such a system will place 200,000 trained soldiers in the country, and each succeeding five years will add its increment of 100,000 men. After from twenty to twenty-five years there will be from 400,000 to 500,000 men in the country, within the ages prescribed for our militia, with two years' training in the Regular Army, from whom we can expect assistance.

Of course it is useless to attempt to say what part of these would volunteer, but make your own conjecture and put the percentage very low, as low even as five per cent. and the number is still large when the special task for which these men are intended is kept in mind. Remember that they are not expected, in themselves, to furnish the second line of our defense, but to become the instructors that are to assist in the training of the great mass of volunteers that we must ultimately rely upon in any great war.

It may be objected to that a man will forget, in ten, fifteen or twenty years, on the farm or in the factory, the two years' instruction he previously received in the army. True, he may not handle a gun with the same ease as when last on parade, he may not sit in the saddle with the same comfort as when he took a post prize for rough riding, and he may not shoot so well as when he made sharpshooter, but how much easier will it be for him to recover his expertness in these matters than for the raw recruit to learn them for the first time. But there is one thing he will learn in those two years, the essential characteristic of an army, that he will not forget in twenty years nor in a lifetime—discipline.

Imagine yourself in command of a volunteer regiment, with many, if not the majority, of your officers as ignorant of the duties of a soldier as are the privates they command, beset by all the perplexing difficulties that such a situation would present, attempting to do in a month or two of feverish haste a task that is supposed to require two years of careful work with

the ablest assistance in time of peace. When in the midst of your trouble you discover that the roll of your regiment contains the names of a score or two of men who have served an enlistment in the Regular Army, you would not stop to ask any questions as to how old they are, or how long ago they served their enlistment, but you would put them to work, and, next after yourself, they would most probably become, for the time being, the most important persons in the regiment.

How would such a change affect the efficiency of the army? It cannot be doubted that an army of old soldiers of ten to thirty years' service is far superior to one made up of young men in their first enlistment. In this statement there is no room for argument, and none will be attempted. But what is our duty to the country as an armed organization entrusted with the responsibility of preparing in time of peace for the nation's defense in time of war? Is it to raise our small army to the highest possible state of efficiency without thought of the other hundreds of thousands that will be needed to support it? If so, then we want the old soldier of many enlistments. Of such men was our army composed in '98, and a more splendid lot of soldiers it would be difficult to imagine; man for man they probably had not their equal on the globe. But what was there behind this little army to support it? With rare exceptions, nothing but untrained, undisciplined rabble. The policy of encouraging reenlistments which made the creation of this little army possible, sacrificed all else to the one idea of the highest possible efficiency in the enlisted strength of the Regular Army, and completely neglected the no less important idea of so utilizing the regular establishment in time of peace as to insure a speedily trained second line of defense on the outbreak of war.

The efficiency of our army has suffered since the close of the Spanish-American War from two causes: first, and greatest, the inexperienced non-commissioned officer; and second, the disinclination of enlisted men of all grades to reenlist. Under the plan here proposed, the second of these causes, far from being removed, will be perpetuated and further exaggerated by prohibiting all reenlistments of privates, and by reducing the term of enlistment to two years; but, on the other hand, the first cause will disappear under the provision permitting non-commissioned officers to reenlist and providing for such increase in their pay as will insure their reenlisting. The pay of the private will remain as it is now, or be increased only by such amount as is

necessary to insure providing the increased number of original enlistments; while the allowances for clothing, etc., will be adjusted to suit the conditions of the shortened term of enlistment.

I have not the data at hand or the space to show with any degree of accuracy the effect this change would have on army appropriations; that they would be increased is apparent, but only along the lines that every one in the army and many out of it admit to be necessary. One item of present expenditure, however, would soon disappear, viz., retired pay of soldiers who have served throughout their period, or until a short time before retirement, as privates. Let us now glance at some of the minor advantages that may be expected to result from the execution of such a plan. It is not proposed as a panacea to cure all the ailments of the army, but it is believed that it will assist in relieving much of its suffering. It is certainly clear that the increased pay and advantages of the non-commissioned officers will result in keen competition for these positions, thereby giving us a far superior class of men in these grades, and stimulating discipline. The first sergeant in his first or second enlistment will disappear, to be replaced by the old and tried soldier, and these positions will not go begging, as often happens to-day, because of a lack of good men to fill them, or because when such a man is available he does not want to be advanced to a non-commissioned officer with his added responsibility and but slightly greater pay.

It is reasonable to hope that desertions would be fewer; two years do not appear nearly so long to the dissatisfied recruit as do three years; and, moreover, a more desirable class of young men might be expected to enlist. A change so radical may be expected to produce results equally radical. One of these may be an improvement in public sentiment toward the army. From an institution which may furnish a young man a lifetime vocation, thus severing him more or less completely from the community in which he may exercise some influence for good, our army becomes a school wherein a young man may receive two years of liberal education, not only free of all expense to him but at a salary, and may go forth at the end of his enlistment, if his service has been honorable, equipped with a diploma that will make him worth many dollars more per month in the opinion of any well-informed employer. The soldier will be brought into closer touch with the civil community. The country will learn of the army for the first time from the men who love it and served honorably in it, and who wanted to reenlist but could not because

the law would not permit, instead of getting the distorted view it receives to-day from deserters, men dishonorably discharged, and the great number of dissatisfied spirits who receive an honorable discharge after three years of complaining service.

The latter class may wholly or partly disappear. Human nature is a queer composition, especially that of the average American; there is much perverseness in his make-up; he wants what he cannot get and loves to refuse to do what he thinks others may wish him to do. Positively refuse to reenlist privates, and this trait in human nature will become apparent in an increased desire to reenlist. A new and different report of the army will be spread throughout the land. A better class of recruits will flock to our recruiting stations. Let the tide of public sentiment that has piled so high against our army but set in the opposite direction, be the riffle ever so small in the beginning, and the army will eventually be seen in its true character as one of the greatest educational institutions of the land.

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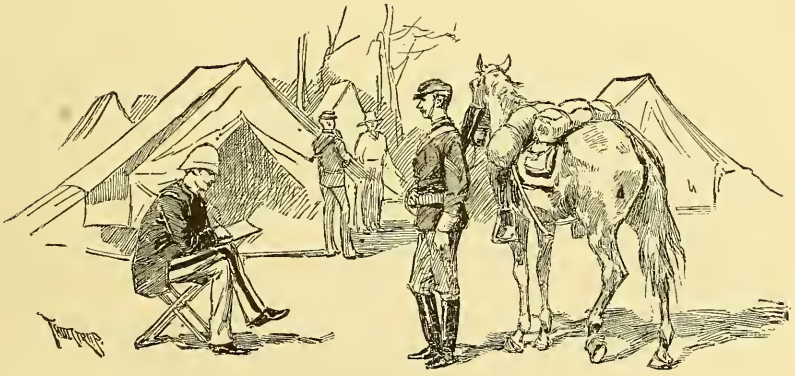
This paper attempts nothing more than the roughest kind of an outline of the plan proposed, with no pretensions as to having worked out its details, and such few details as are given are but mere suggestions that might have to be modified to harmonize the various necessities of the service. Of course, just who should be given the privilege of reenlisting, whether it should be extended to cooks, farriers, mechanics, etc., as well as to non-commissioned officers, is a matter of but minor importance. To avoid appointing non-commissioned officers, from men in their first enlistment (as so often has to be done to-day) a very limited number of privates, to be selected in an appropriate manner, might be permitted to reenlist. It may be objected that the plan does not fit in with the highly technical character of the artillery service, but I see no fundamental reason why it may not apply, in a more or less modified form, to this branch of the service as well as to the cavalry and infantry.

Shortening the period of enlistment to two years may arouse much criticism. If so, the three year period might be retained, as its replacement by the two year enlistment does not constitute a vitally essential part of the scheme; personally, I believe the advantages of scattering a greater number of trained soldiers throughout the country in a given time, of fewer desertions, and of less discontentment in the army, greatly outweigh the ad-

vantage of the additional instruction and discipline that the soldier will receive in his third year. As to the theory of re-enlistments, in general, I do not believe it to be founded on a sound economic principle. In two years of constant, careful instruction, a private soldier should be able to learn seventy-five to ninety per cent. of all that can be taught him, of his duties, in time of peace. It is in these years that the nation gets the greatest return in the form of material improvement of the raw soldier for the amount of money expended. In subsequent enlistments the soldier acquires the remaining ten to twenty-five per cent. of what he has to learn, but at proportionately much greater expense to the Government.



THE ARMY IN CUBA.

By Lieut.-Colonel ROBERT L. BULLARD, Eighth Infantry.

THERE has been no war, but the highest purpose of the soldier accomplished the guaranteeing of peace. If thereon the army boasts a little, let it not be set down to vainglory but to soldier pride.

Comment can fall under but two heads, the military aspects of the army's occupation and its part in the pacification of Cuba.

I.—MILITARY ASPECTS.

The call to Cuba caught the army, except as to numbers, prepared, practically already mobilized for field service after the summer's maneuvers; and never, perhaps, did the nation get prompter or better returns for any than for its money spent in those maneuvers. After them, the movement of the troops and the occupation of Cuba were effected with order and expedition, with less apparent strain and error than any similar movement in years, with less, even, than the march to the maneuvers themselves. It was the plain result of practice and preparation, of forethought and of better organization. It gives hope for the future.

A painful feature from the first, however, was the pitiable measures that a great nation had to resort to in order to secure this insignificant force of 5000 men for the occupation of Cuba. We annihilated the third battalions; we took eight regiments to get five; we practically cleaned up all the available armed forces of the republic within the limits of the United States. Such a thing would have brought us low before any power of the world; we would have been laughed to scorn by any but a weak and divided people like the Cubans. If instead of for 5000 there had been a call for 50,000 ready soldiers, itself a mere trifle in these days of hundreds of thousands, this great, vainglorious, boastful people could hardly have moved a peg for a month!

The movement to Cuba, the reception, supply and distribution of troops over the island into a small army of occupation, gave

opportunity to test the machine. Beyond all doubt, except to the hypercritical and reactionary, the results were good. In his personal experience and observation through all, the writer has seen no cause for a single growl. He thought he saw one; inquired into, it proved groundless. But growls there were undoubtedly, criticisms and complaints, violent and noisy; yet through all their noise and violence, in every instance the ear could never shut out a note of personal failure somewhere upon the part of the growler. It is a soldier trick, it is a favorite way, that, of concealing a weak point by making a noisy attack elsewhere, or of covering our own failure by a clattering charge.

After occupation of the island, the little army scouted, marched over and mapped every foot of its mountain, plain and marsh. It took months, and was hard work and dull for officers, men and government mule. Its training effect was incomparable; it was just the thing needed to fix the theory long studied in the garrison schools at home. It discharged (alas!) the men finished field soldiers. What is left will hereafter know what it is, men and officers, to camp, march, make a map and gather information, and mules to balk at nothing.

What is there about an American that makes him so perverse about learning a foreign language? For the officer, there is no knowledge, no, beyond a certain point, not even military knowledge, that is so generally valuable or useful as languages. With all the experience in Cuba, Porto Rico and the Philippines during the past eight years, one would think that this had rooted itself in the brains of officers to bring forth its fruits, at least, in the learning of Spanish. Who so thought saw his thought sadly fall on coming to Cuba. It has not turned out so. After the long encouragement and appeal of authority, after the Spanish courses in our service schools, the teachings of recent and the urgings of prospective experience, those of our officers whom I saw on coming to Cuba who could swap one thought with a Cuban, I could count upon my fingers. The "wayno," "vamoose" and "speera," the carabao Spanish of the Manila coachman, is not Spanish; it will not serve in Cuba. The conditions here impressed the need that officers should know Spanish. He almost lost his use that did not; he immediately enhanced his value, he was in demand at once, who did. Will we again be caught upon this point? It is a question for authority.

In spite of our disgust and contempt for their smallness, almost all of our military work and command since the Civil War,

whether in drill in quiet times of peace, in the Indian wars, or in the practical work in Cuba and the Philippines, have been of the lieutenant's, captain's and major's caliber. They continue so in Cuba now, and if we project the imagination toward future possible tasks, we meet always the same probability. What of it? At least it is the small man's opportunity. If it does not fill our large ideas of theory, it gives far more of us our chance in practice. If it does not practice the general, it at least teaches the small fry; it gives them an opportunity for development of discretion, independence and self-reliance, opportunity the like of which is not perhaps to be had or dreamed of in any other army of the world. The result of such training in recent years, together with the careful instruction of higher authority on arrival in Cuba, has had marked effect in the conduct of commands. With officers, even young officers, there has been a remarkable absence of "breaks" and errors of judgment to bring them trouble with the military authority, civilians or government officials. It is a matter of congratulation.

In this Cuban intervention, the American soldier has thus far again dignified himself and justified the faith of his friends. A surpassing excellence of conduct toward Cubans and an unusual worthiness of conduct as a soldier have characterized him everywhere in Cuba. More marked than usual? Unquestionably. The cause? An appeal to his manhood, decency and self-respect; an officer who in the beginning came near to his men, who forgot the impersonal written order and spoke by word of mouth straight to his officers and men assembled about him. In the Regular Army, it was a strange sight; in any army, a wonderful return. To the volunteer, disappeared from among us from the days of the great Civil War until the Philippines, the regular soldier must perhaps give thanks for bringing us to the idea that the common soldier may be thus wonderfully touched on his honor. May the principle never pass from before our minds.

But the most striking and pleasing thing in connection with the American soldier's service in Cuba has been the view it developed in him of the revolutionist and insurgent. Under the injunctions and orders of authority the army, officers and men, have in public preserved a commendable attitude of impartiality between the warring factions of the Cuban people. To them, officially, all Cubans, insurgent or loyalist, have been alike. But in private, in retirement, as men, nothing has been able to make our officers or men think of the two parties alike or to have any

use for the side that raised the insurrection. In this, our Government's course of impartiality has not budged them. They were from the first and have remained resolutely against the insurgents and cannot be induced to think of them in any other way than with fixed and profound prejudice and contempt. It is a pleasing thought. Let the American people take note that to the core their army is loyalist and everywhere hates the name of rebel and insurgent.

II.—IN THE PACIFICATION.

"The army has not been used and has had no effect upon the situation," said a gentleman, speaking of the pacification of Cuba. Never was a man more deceived in the surface of things. True, for fighting the soldier has not been used; but for pacification, in his other attributes, he has; yet, so quietly, so skilfully, so unostentatiously that he has seemed never to have been in play.

The army's coming into Cuba was, as to effect, like the coming to anchor of a battleship in a harbor; silent, placid, without threat, yet with conscious dignity and potentiality. It represented more than itself—the moral force of a great nation. Otherwise it had been ridiculous. It was playing a part; but a part, a rôle, be it remembered, however great, is of none-effect by itself—it is utterly spoiled if the playing be bad. In the army's acting rested much in Cuba.

To the Cuban from the first the United States soldier was made to stand for something not to be trifled with, not to be roused, never, except in the last extreme, to be called into action. It was not encouraged to mix in the life of the country and was strictly held back from mixing in politics, police or public affairs. It was studiously kept a thing uncommon and apart. It was placed upon a pedestal alone. Its solemn quiet and dignified attitude of calm observer of passing men and events has enormously augmented its respect and the potentiality of its influence. From the first it was plainly laid down and carefully adhered to that it was to be the quiescent moral force of the United States behind a government mainly of Cuban officials. By no other policy could 5000 men have been made to count for so much. It was a master stroke that fixed that policy. To the Cubans the army thus became a reserve power of an enormous regulatory and pacificatory effect.

But the army was small. Cuba has two millions of people scattered over a country seven hundred and fifty miles long.

Divided up and scattered over all the island's length into the smallest garrisons, there were still not soldiers enough to go round. So, as far as possible, they were marched around, not for show, not for trickery or deception, but that Cuba might be made to see the representative of the strength of the United States, the United States soldier, the big, sandy-haired, blue-eyed man, who had been so free with the Filipinos, now reserved and distant with the Cubans. Most of Cuba saw him. Wherever he went, by familiarity he has not bred contempt; by dignity of bearing and conduct he has left respect. This was the miraculous feeding of the five thousand with the five loaves and two little fishes. But it was hard. Though perhaps in the end we may say that the multitude has been fed, the loaves and the fishes were too few. We who saw, know that there are places in Cuba where, there being no permanent material representative of this moral force of the United States, there was hardly perceptible moral effect.

In their revolutions against Spain, Cubans relied very largely upon their knowledge of the country and how to get around in it. At once upon the occupation of Cuba the little American army, for possible contingencies, entered upon a scheme of exploration, map-making and information-gathering to cover the whole island. Without bluster or talk the work went on before the eyes of all Cuba. It carried American soldiers into every nook and corner of the island. The sight at once had a most sobering, thought-producing effect upon the wild, uncertain classes of Cubans. Everywhere were heard remarks like these: "They will know our country better in six months than we in all our lives," "They will know every marsh and cave, mountain and wood in all Cuba when the next trouble comes." That trouble has not come. The work has been finished. Besides its mere military results, it has borne to Cubans a message of infinitely beneficial and pacificatory import. It was no threat, but a silent, impressive lesson. It had another and very curious result. The idea of it struck the Cuban fancy; it touched their sense of shrewdness; it seemed to tickle them. Out of this grew greater Cuban admiration for Americans and greater influence of Americans with Cubans. Now, if the army can but get past the term of pacification without firing one hostile shot, it is probable that we shall thereby have already accomplished the conquest of future revolution.

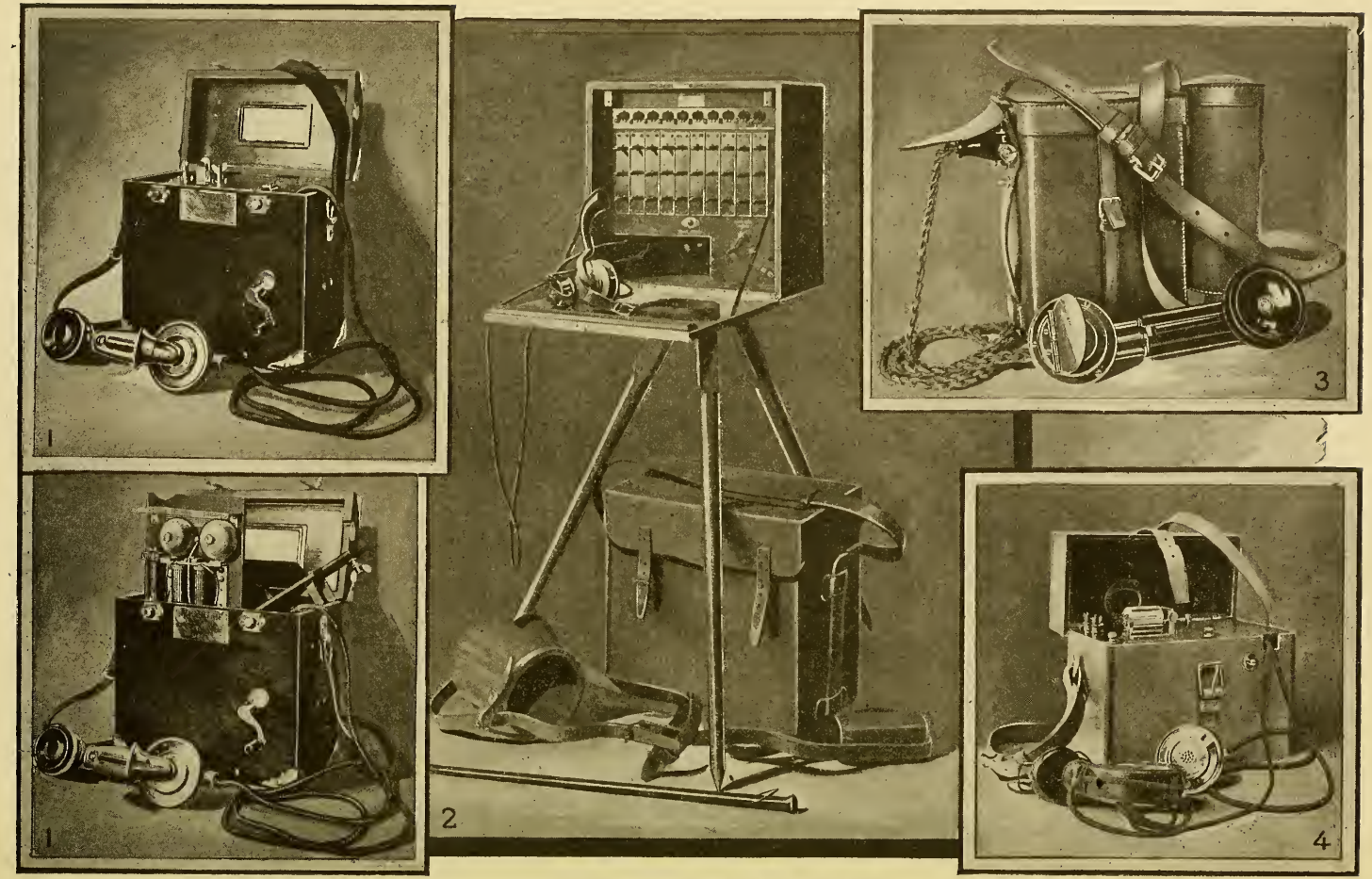
Altogether the army's part in the Cuban intervention has

been a thing of tact, and the little force has well earned its name, "The Army of Cuban Pacification."

Considering our whole work in recent years in Cuba, the Philippines, in China and in Cuba again, we cannot fail to be impressed with the fact that if army officers and the army have had to know something of the art of war, they have had to know and use far more of the art of pacification. In the Philippines their work was four-fifths peace and one-fifth war-making; in Cuba it has been all peace-making. With the small, quarrelsome, revolutionary Latin-American states near us, with whom we neither would nor can fight, the future promises ever the same thing. Our whole recent experience, then, our present duties and future prospects all point to the idea that by the study of how to make war alone we shall be but little prepared for by far the greater burdens of duty which are to fall upon us, which are the making of peace. To know the art of pacification almost equally with the art of war is, besides, a necessity for the army officer who may to-day and in the future desire to serve well his country; for, however incongruous it may seem, the work of making peace is falling and will fall upon the man whose duty it is also to make war. By proper instruction and study we should be prepared for this duty; it is missing the problem, it is neglect of preparation if we fail to do so.

But how prepare? The basis of all peace is law, and the ways and means of pacification should be a branch of the law, embodied in that to be studied and required of all officers. The law department of our service schools should, from our recent broad experience and precedents, work down to principles and state and teach the art of pacification for future military occupations. The materials exist, the work is worthy, its needs apparent. The results would probably be law only about as the law of nations is law, but if the fighter must also be the pacifier, these results would be none the less valuable to the army for the future.

The armed man, the best practical means of securing peace, had better, at least, not sit still and let the impractical idealist alone assume these functions.



SIGNAL SERVICE TELEPHONE EQUIPMENT.

THE TRANSMISSION OF MILITARY INTELLIGENCE.*

By Lieut.-Colonel GEORGE P. SCRIVEN, Signal Corps, U.S.A.,
Chief Signal Officer, Department of the East.
Gold Medalist, M. S. I.

THE SIGNAL CORPS AND THE MOBILE ARMY: COMMUNICATIONS AND PERSONNEL.

THE transmission of intelligence in the United States Army is intrusted to a signal corps composed of men selected or appointed to perform the more technical duties devolving upon them. These duties have become formidable in peace and vital in war, and to signal officers they at times seem to cover the whole field of human endeavor. Doubtless this is an exaggeration; still from maintaining with snow-shoe and dog-sled lines of communication over the frozen wastes of Alaska, the wireless telegraph across the ice-bound waters of Norton's Sound, and the cables south to civilization; from building telegraph lines for the improvement or correction of our little brown brothers in the Philippine Islands; and from assisting to quiet the troubled spirit of Cuba to the highly technical work of the fire control of our fortifications; instruction of the men at the coast training station on Bedloe's Island; the school duties and service with the mobile army at Leavenworth; ballooning at Omaha; and the wireless crying out for installation everywhere; it should seem that this field is quite sufficiently extended. If it is not cultivated to the highest point of utility throughout its vast area, it is because the means are not furnished. The crying need of the corps is men, not money.

In war the field of operations of the signal corps contracts strongly, almost fiercely; but the thin layer of work made to answer in peace will no longer suffice to meet the strenuous conditions imposed. Then, indeed, the duties become so imperative and exacting that no means may, without danger, be omitted to fit the corps to fully meet them.

To perform the work at present imposed upon the signal corps of the army, there is provided an organization composed

*Continued from July number.

of one chief signal officer, nine field-officers, eighteen captains, eighteen first lieutenants and 1212 enlisted men. Of the commissioned officers of the corps at this time, two of the captains and seventeen of the first lieutenants are detailed for service for a period of four years, but the average service will probably be much less on account of promotions and from other causes. Additional officers are added from time to time for temporary duty.

It will probably be conceded, considering the scope and variety of the duties of this corps, that the men who form it should be intelligent and well instructed; furthermore, that both officers and men should remain long with the service and make it their profession. But such is not now the law, at least for the officers. Criticism of the law, however, is injudicious, if not improper, and it will be here sufficient to quote, as an indication of expert opinion,* this remark, "Information service fails especially because the world is ignorant of its principles, processes and mode of action. The transmission of intelligence demands special organs. Most armies give some telegraphic training to non-commissioned officers and troopers; it is lost time. Those partly informed are always incompetent; special trained men are necessary." This brief statement contains, in the opinion of the writer of this article, the wisdom of volumes; it might well be considered a military axiom to be placed at the head of all treatises and laws affecting the army.

It is not intended, however, to discuss here the commissioned personnel of the signal corps, a subject which has its own place; and we will therefore pass on to a brief consideration of the conditions affecting the work of this corps in peace, and to its services and probable strength and organization in war. These considerations will, no doubt, prove dry and technical, but they are not to be avoided. It has been the experience, not only of the writer, but of many officers of rank with whom he has talked, that in the field the value of a signal corps is not so generally understood as it might be by officers of the Regular Army and of the militia, and for this reason its use is frequently neglected or contemned in maneuvers. When war comes it is reasonably certain, unless a change takes place in this respect, that many officers who will be called upon to use the communications will not be sufficiently

*General Lewel, the author of whom Maj.-Gen. A. W. Greeley, in the articles before mentioned, says: "By all means, the most forceful and far-seeing writer on this subject (lines of information) is General Lewel, whose "Etudes de Guerre" are among the most thoughtful and comprehensive, especially as to practical details, of any modern essays that have come under my notice."

familiar with them to employ to their full measure of usefulness the appliances which are now provided for the service, and preferring the traditional note-book and orderly to the telegraph will make as little use of modern lines of communication as the Russians appear to have done. It has been assumed that progressive officers in these days appreciate to some extent the importance of the subject; and it is known that general officers, especially those credited with the long service which alone entitles them to the rank, have, as the name implies, the experience and knowledge necessary for the control and direction of the combatant arms and of their staff service. But it by no means follows that even experienced and capable officers know all about the use of auxiliary corps which are often of recent creation and unappreciated importance. Chief among these auxiliaries is the signal corps of the army, which, though by no means new in *esse* is very new indeed in *posse*. Its importance has been proved, but its modern value is not yet known even to itself, perhaps, for who can tell what part in the future the balloon, the wireless and other devices may play in the operations of mobile armies, or what may be the field of usefulness of electricity as applied to the coast defenses? But whatever these may accomplish, it is reasonably certain that their value will depend almost wholly upon the men who use them. Not upon the actual manipulator alone, be it understood, but upon the directing brain, the man whose plans the communications are designed to carry out. He it is who must give life to systems of communications, for without the directing mind they are mere inert collections of useless material, valuable in theory alone.

It should be remembered that, like all staff and auxiliary troops, a signal corps is merely an adjunct to the line of the army and can have no separate existence. Its value depends solely upon the use made of it by the line, and this in turn upon the knowledge and capacity of commanding officers to whom familiarity with its scope and power is vital. If, as has been said, this knowledge is far less common among officers of the army and of the National Guard than it should be, it is a condition by no means due to neglect, but rather to lack of opportunity. In peace the means of acquiring knowledge of the use of a signal corps in a practical way are few, for the field exercises are about the only school; and when war comes the time to learn has passed. The theory at least may be acquired by other means than maneuvers and should be insisted on, but instruction should not

begin and end with senior officers. As with other military studies the commencement must be made far down the scale of rank; that the general may put in use instinctively, perhaps, knowledge, the beginnings of which were acquired as a subaltern. In this the school at Leavenworth is doing notable work, and it is hoped that West Point will some day see the importance of teaching fully the lesson of the communications and not merely its alphabet, to the lads who stand at the very threshold of the military career.

It is believed that the signal corps in peace should be associated as closely as possible with the line of the army in whose methods and service the signalmen must be trained, and with whom his duties are most intimately connected; and that a force of signalmen should be present at all exercises and maneuvers of line troops. It follows that an efficient force of signalmen should be placed at large garrisons, and held in readiness to take part in all movements and exercises. Similarly, detachments of signalmen should be placed at the coast artillery districts, where, in addition to the use and care of permanent lines of intelligence and fire control, they should be ready at need to take their place at observing stations and on scout boats to use the wireless, flags, lights and other signals during exercises and drills, and with field wire and buzzer to carry on the communications in connection with the supporting forces of infantry; usually the militia in the exercises of peace. This is a tolerably large field even in peace, but in addition there remains to be performed the staff duties of the corps which exist both in peace and war, the supply and purchase of material and maintenance of permanent telegraph lines and cable systems, and the technical training of the men themselves. The signal corps in reality, though not in law, is both a staff and a line corps and must be trained in the duties of each; but the latter training can only come through association with the line of the army with which when war comes the signalmen are bound as closely as are the three arms of the service to each other. They must be instructed and equipped accordingly.

In what has been said there is no intention on the part of the writer to magnify the signal corps, or to sing its praises. Its work must speak for it. But there is the strongest desire to emphasize here the importance of the field opened to a corps of the communications by modern science and its appliances. This field corresponds closely to that covered in peace by the press, the telegraph, the telephone and, in part, by the mails; but in

war it possesses the added importance of including in its extent the greatest of human events, and control of actions as swift in occurrence and as shifting as the lighting. The field both in peace and war is that of mental control.

In addition to a general knowledge of the methods of transmitting military intelligence, it appears that reasonable familiarity with the instruments and methods employed under varying circumstances must be possessed by officers who will use them, and especially by those in control. For instance, no soldier about to assume command of an army or of an expeditionary force for service in a distant country would willingly lack information regarding the kinds of communication that should be used in the field and of the types of instruments needed for his work; nor would he care to leave the selection of his means of communication solely to the judgment of a subordinate, perhaps a stranger. He must know, or at least he should know, from the nature of the country and the probable scope of his future operations, the character of the communications that he will need, and the kind and amount of material that he will use. As an example, he would not knowingly carry the wireless into a wilderness where his batteries could not be recharged; nor provide much visual signal apparatus for use in flat tropical jungles. On the other hand he would provide himself, within the limits of his transportation, with everything that experience and knowledge might suggest as useful, and for that reason he should know generally what amount of material to select, character of communications and the number and kind of men necessary to use them. The commanding officer will have a signal officer on his staff, no doubt, to whom all details should be intrusted, as he will have an ordnance officer and an engineer; but he should assure himself personally that his means of communication are sufficient for the work ahead, that they conform to his plans and to the probable field of action, just as of his own knowledge he will make sure of the arms carried by his men, the character of his artillery, the amount of his ammunition, and the size of his pontoon train.

This preparatory work of a commander implies some knowledge of the service of the communications and of the instruments used, but only knowledge of a general nature. It is after he takes the field that his capacity and experience are called fully into play. Then, indeed, in addition to his own knowledge he will require all the assistance that the most skilful of his signal officers can render in determining the character, scope and plan

of the communications, distribution of the men and location of stations. On the march, in camp and in contact with the enemy, such dispositions must be made by him as not only to secure the best service possible for himself as commander of the troops or expedition, but as to give, also, to those in subordinate command the fullest advantage of the communications and the quickest transmission of information and intelligence.

A military force no sooner takes the field than its lines of communications are determined, its methods of signaling designated, its stations located and the whole command linked together and connected with the home country or capital by these nerves of the army.

It is difficult, if not impossible in a paper of this kind, to specify the courses and objectives of telegraph and telephone lines and the location of visual and wireless stations under the varying conditions of field service and the many phases of war. On this subject a commentator remarks:

"Every tactical problem varies in its details and the cammander of each force is constantly confronted with new situations which cannot be met automatically by any set rules. Judgment must be used in applying the essential principles which govern. So with tactical lines of information, judgment must dictate when and where to lay the lines, and what methods to use. The acumen for this judgment comes only from practice and experience. The primary object is to secure and maintain constant and unfailing communications. Then economy and the powers and limitation of each distinct method as well as their adaptation to the particular problem must control."*

In general, it may be said that lines of communication will take the direction needed and be established where useful. However, a few more definite suggestions may be offered.

The main reliance of an army in the field will be placed upon the wire telegraph, or, for short distances, upon the telephone; but visual signaling will, by no means, be neglected, for although comparatively slow and of no great range, it is an indispensable auxiliary, and at times may afford the only means of communication. The field wireless, if attached to army, corps and division headquarters, and used in connection with suitable observation stations at the front or on the flanks, should also prove of great

*This remark appears in a very excellent paper by First Lieut. W. N. Hughes, Jr., Thirteenth Infantry, entitled "The Signal Corps in Maneuvers," prepared at the Infantry and Cavalry School at Fort Leavenworth. This paper is well worth the attention of all officers concerned with the transmission of military intelligence.

value in the intercommunication of an army or corps; and that a balloon train should be attached to the headquarters of the army seems obvious.

The more permanent lines of the army will be carried on lances; but in temporary camps, on the march, or in contact with the enemy reliance will be placed upon the field or buzzer lines.*

The wireless in its present stage cannot be considered as a primary means of communication for the mobile army, as it has not passed, in all its phases, the experimental stage. In addition, on account of interference, interruptions, delicacy, cost and other objections, it can probably never be used over land with the certainty and frequency of wire lines. But the use of the wireless with the coast defenses is another matter altogether; in this service it is assuredly of the highest importance even in its present stage of development. However, great advances are being made in the construction of the field wireless—as was indicated in a preceding paper— and when the various new types of apparatus, called mosquito sets, are in use it appears that an army, in the opinion of wireless advocates, should resemble, in the field, a flock of blackbirds, so general will be the twitter of the instruments. Maybe, too, it will become as suddenly silent on the approach of the man with the heavy wireless weapon. But those anticipations must be taken soberly, for no doubt signals will drown each other and but few sets will be permitted. Thus far field experience does not promise unlimited success.†

It has been found that wireless communications can be maintained across considerable stretches of country under favorable conditions by expert men; but it appears that not only experience, skill and good judgment in the selection of stations are required for its success but that the terrain must lend itself to the purpose. Judgment and experience as well as a high degree of skill and technical knowledge are necessary, and everything in connection with the apparatus must be in condition. In short, to be

*Descriptions of the field lines and the more important instruments are given hereafter in this paper.

†Across water the case is different, and during the combined exercises of the militia and regular artillery in the vicinity of Fort Totten (June, of this year) fairly satisfactory results were obtained with the new wireless apparatus, though over very short distances, between the picket boat carrying a portable set and a land station at Fort Totten. The results were useful, and as the apparatus had been hastily installed, the boat antennæ somewhat crude in character and the whole used, with only few exceptions, by signalmen little familiar with the wireless, the results tend to show that as an element of sea-coast defense the portable and mosquito wireless will prove of the greatest importance.

successful in wireless communication over land one may say that all conditions must be favorable, even the atmosphere.

It appears, then, that both wireless and visual signaling, though important, may be classed as auxiliary to the main system of wire telegraph and telephone communication for an army, to be used when the wire cannot be installed or is interrupted, and for communication across a country included in the enemy's theater of operations. But visual signaling appliances, at least, should always be at hand at telegraph, telephone and wireless stations to be used when needed. No doubt the most important use of all air-borne communications is in connection with boat expeditions and the navy.

With an army in camp or on the march, or in contact with the enemy, the problem is to maintain touch with a few definite points, and no great amount of detail will be required. In general, with an army in the field the headquarters will maintain communication with the base with field wire, a lance or semi-permanent telegraph line, and through its base with the home country or capital by commercial telegraph systems or cable. From army headquarters the military telegraph (using commercial lines with signal corps operators when possible) will run to corps headquarters and from there to headquarters of divisions, of independent brigades, and of artillery, cavalry and other commands under the immediate control of the corps commander.

An excellent example of a military telegraph system on an extended scale is furnished by the Japanese who had, at the conclusion of the Asiatic campaign, a network of lines touching the coasts of Korea and Manchuria at every important town and inlet from Chemulpo to the Gulf of Liao Yang and beyond Mukden; the whole forming a network of telegraph lines in some localities as close together as the commercial systems of the United States. Lines of this kind follow, of course, the railroads and wagon roads of the country where they are most needed and more readily maintained.*

In the United States Army the division is considered the tactical unit to which are assigned all arms and auxiliary troops of the service. The ordinary lines of communication of a division under the three conditions of the camp, the march and contact with the enemy are therefore worth a word of consideration, although they cannot, of course, be definitely fixed. Assuming

*"Stragetical map of part of Corea and Manchuria," prepared by the Second Division, General Staff.

that this command is to be assembled at some suitable locality, an officer of engineers will, no doubt, first be sent to select sites for the encampments of the various units; quartermaster and commissary officers will locate their depots; and the medical officer the field-hospitals. It will then become the duty of the chief signal officer of the division to install the lines of communication. He will first establish at headquarters a central signal station and connect this with the most convenient telegraph and telephone offices through which communication may be had with the commercial systems of the country or with the base. He will establish a signal camp and depot where will be stored all material needed for extended and varied service. Next he will connect by telegraph, corps or army headquarters (if such exist), and for convenience will carry telephone lines to the chief quartermaster, commissary and surgeon, as well as to the depots, hospitals and corrals. As the troops arrive at their camps lines will be run from the division central to brigade headquarters, to the camp of the engineers, the signal corps, to the cavalry and field-artillery, and to independent commands at a distance, but it is not thought to be good practice to extend electrical communication, in ordinary cases, below the brigade, as otherwise the troops are apt to have too easy and enervating service. Within the divisional camp itself, the telephone will be the ordinary means of communication between fixed stations, the telegraph being reserved for more distant work; both will ordinarily be carried by lance lines. In addition to these more permanent lines temporary buzzer or field wires will be carried to changing stations, such as outlying observation points, temporary balloon camps and wireless stations designed to operate at the front or on the flanks, and to the outposts. In short, every important point will be connected with division headquarters and the whole command linked together and connected with the base and the larger units by wire. In camp, then, there should be little difficulty in using fully the communications, since the system is known and the stations are easily found.

On the march the lines of communication and the stations for a division become fewer and the latter more difficult to reach. Some general considerations may be noted. First, a division on the march must at no time lose connection with its base through the last station occupied; and as the advance continues a flying or buzzer line will extend forward to the commanding general, that is, to some position designated by him as his own during the

day or night. This position becomes, so far as the communications are concerned, the headquarters. As the buzzer or field wire advances it should be followed by the signal train with the necessary material for a lance line to replace the field or buzzer wire, for the former is expensive and the latter very liable to injury from passing troops and transport if left lying on the ground or bushes, and the resulting faults are not readily located. However, so rapid at times is the advance of a lance line that no field cable, or very little, need be used on the march. Later, when material is at hand, the lance line may in turn be replaced by a semi-permanent system erected by the (so-called) base line (or étape) troops and the lances recovered; but this construction is necessary only when the system is to be used for a long period. On the march a buzzer wire may very well follow the general line of advance of the commander by extending from one conspicuous station to another designated by him.

The units of command should, in the advance, be kept, so far as possible, in touch with each other; but as these units frequently move by different routes and as cross lines are impracticable except at halts, and always objectionable, field or buzzer wires must stretch from the last field station maintained at the rear to corps headquarters and to brigades and important commands, as the ribs of a fan expand. As also wire communication, if possible at all between the general and detached commands, or cavalry at the flanks, will usually be maintained in this way or by visual or wireless signals. It may be possible on the march to keep the advance guard and even the point in touch by buzzer with the headquarters station but the problem is not easy, for the wire is almost certain to be interrupted by passing troops, and the moving headquarters station must probably be equipped with a take-up cart unless the wire is abandoned.* During halts, however, such lines can quickly be thrown out, but here visual signaling may be used to advantage and above all the field wireless, especially of the mosquito type. Communication with the flanks may also be obtained by the last two means. Probably the balloon train, if well to the front (which it should never be in the presence of the enemy), will offer the greatest advantage as a headquarters signal station. The balloon in air can move forward rapidly enough to maintain its place in column, certainly at a trot,† and

*Great care must be taken in campaign to recover every inch of wire lest the supply be expended.

†The writer has seen, with the Italian Army, the balloon wagon, with the balloon well in the air, follow cavalry at a trot.

since observations from it are telephoned continuously to the train they may be communicated without loss of time to the commanding general if near, or through the buzzer line, if distant. The buzzer wire is readily controlled and carried by a balloon wagon.

The day's march over the division eats and rests; not so the signal men. Then buzzer lines from the advance guard, from the flanks, from the corps headquarters and from the rear must be carried to division headquarters, and others laid to the outposts and reserves, and still others to detached posts, to observation stations and important points where pickets are maintained. A central station will be established and from it as many secondary lines laid to brigade headquarters, auxiliary and detached troops as the general may deem necessary, a matter which will undoubtedly depend upon proximity to the enemy and the length of time the camp will be occupied.

In a retiring movement lines of communication will be as few as possible, and mainly used to connect the rear guard with the general commanding. Provision should be made, however, to tie flanking parties thrown out at important intersecting roads with the marching columns and to recall those troops as the rear passes. It will be important, also, to connect retreating columns moving by different roads and this can be more readily done than in the advance, since lines extending to the front of the retreating force will not ordinarily be in danger of interruption, except from a very active and overwhelming cavalry. Thus, in the retreat, central stations may be thrown out far ahead and wires led back to the marching columns like the ribs of a fan, as in the advance, to be taken up as the columns pass, if not abandoned. Of course if the retreat follows the line of the advance, stations on that line that have been maintained will become the central through which various units may be reached. In the retreat a balloon train should render important service as an observation station, but it must be placed on a flank.

As the period of actual contact with the enemy approaches the most serious of the problems of the communications arise. Then, indeed, it becomes necessary for a commanding general not only to know what he can reasonably expect from his communications, but to weigh their chance of maintenance and the extent to which they may be usefully employed. He must know the terrain and the best means of sending messages across it; he must know his enemy and the probability of successful attempts on the latter's part to cut the wires or drown the wireless; and in difficulties he

must try every means of signaling that offers a chance of success. An active and numerous hostile cavalry will, if unchecked, make communication by wire difficult, if not impossible, outside the limits of control; while on the other hand an inert cavalry need hardly be considered. It seems probable, for instance, that the Japanese owed much of the success of their communications to the lack of energy or direction of the Russian cavalry.*

However, as the division approaches the enemy the commander will make as certain as possible of his communications with corps and army headquarters, with supporting and reserve troops and with the rear; and before actual contact comes buzzer lines will be carried to brigades and, in some cases, to regiments. The troops engaged, buzzer wires will be carried forward to the firing line, where trained observers, perhaps officers (as was done by the Japanese), with buzzers or the field telephone, will be placed to send back important information as regards control and fire. It may be practicable at the beginning of the action to maintain touch by wire between the smaller reserves and the main bodies; but this is doubtful, as a great multiplicity of wires on the field of battle is hazardous, for all cannot probably be maintained in the face of marching troops, and untrustworthy lines may do actual harm by failing when most needed and overthrowing calculations or defeating movements the opportuneness of which depends upon rapid transmission of orders and information. But this objection applies to all communications.

Regarding communication on the field of battle the writer before quoted, says:

> When the attack is once launched, little control can be had by superior commanders over the troops making the attack, but the lines of information are still of value for quick reports as to the success attained. Therefore, the lines of information, while not advancing in the actual final infantry assault, should be pushed up under cover as far as possible in order to see and report the result to the commanding general as quickly as possible. Then, again, lines of information should be used to notify the artillery when to cease firing, which should fire, however, until the infantry has advanced to its range. A quick order is needed here. Field Service Regulations should settle who is to give the order. The Japanese sent artillery-officers with telephones on the firing line to accomplish this.

Of course, before the division is actually engaged against the enemy its commander will extend his field or buzzer lines to the positions occupied by the cavalry and artillery commands and will maintain touch with the former as long as possible, and with the

*See report of Major Kuhn.

latter throughout the action. The artillery will, no doubt, in addition to its other lines, establish between batteries a system of fire control to enable the chief of artillery or the division commander to concentrate or disperse the fire as needs demand. In addition to all this, and one of the most important of the measures to be taken, the commanding general will early establish communications by field telephone or by buzzer, by wireless and by visual signals between some fixed position (designated as his own) and the observation stations and balloon. From these should come the most timely of his information regarding the movements of friend or enemy, and notices of the changes taking place in the shifting panorama of war which no single observer can perceive.

It should be noted that in action the balloon will attract fire, and to avoid the effect of dropping shots upon reserves and other troops at the rear, it must be carried well back or to a flank.

So much for the communications of the larger bodies of troops; in the case of a small independent or expeditionary force, the problem is easier but not less important. If operating in an enemy's country, especially if the movements are connected with a boat expedition or with the navy, somewhat less weight must be given to wire communications and more reliance be placed upon visual signaling and (if carried) on the portable wireless, perhaps of the mosquito type. With all such expeditions a supply of day and night rockets should be carried, for they are of value as preconcerted signals or to indicate location and time. The field acetylene lantern will also be extremely useful, for its range under favorable conditions is easily twenty miles and it can be used by hand even from a boat on quiet water. But in addition buzzer and field wire in necessary amounts must be carried and probably both buzzers and field telephones. The amount of material will be small, however, if pack train or light transport alone can be used, and all large wire and heavy material must be omitted. If the force is to maintain communication with its base or main body, or is placed on the coast as an independent infantry support to the artillery, lance lines should be thrown forward to meet its necessarily limited field lines, which must be used for the safety and success of the expedition as it advances. For this purpose the necessary light wire and instruments to maintain touch with the advance guard, outposts and other important points will be carried.

Enough, perhaps too much, has been said regarding lines of

communication in the field; but the subject is interesting and vast. A commander who can profit by his communications to the full extent possesses great ability, if not genius, but there are degrees of benefit to be derived and an ordinary man provided with these aids to success is far better armed than genius without them. The commander, then, aided by his chief signal officer, must plan and direct, but the signal officers and men under them must execute; on their energy and ability will depend the value and success of the communications.

One other factor of importance enters the problem, and that is familiarity on the part of those authorized to use the communications, not merely with their character and scope, but with their objectives, their value and location of their stations. Of what use, for instance, to an officer having important information to forward, is a network of field wires going he knows not where; or of signal stations hidden or inaccessible that he has not time to find? It follows that systems of communication must not only be skilfully established, but be as well known and as familiar to those who have to use them as the mail and telegraph offices to the average citizen. As a consequence the commanding general should not keep himself alone informed regarding the systems established and the location of stations, but he should send this information through the proper channels to those in command under him, who should in turn transmit to all who are entitled to receive it; and in addition he should take every opportunity, by orders or circulars, to impress upon his subordinates the importance of familiarity with the systems as established, and a knowledge of the location of stations and of the quickest way to reach them. As a rule, then, signal stations will, as far as possible, be placed at points readily accessible and, unless exposed to the observations of the enemy, they will be as conspicuously marked as a telegraph office or a telephone booth in town. But often they will necessarily be placed in exposed positions, especially buzzer stations which are habitually located at the outposts or frequently with the firing line. Whenever possible stations will be sheltered, as far as practicable, in order that the attention of the operator may be wholly given to his work. Their approximate locality will be selected by the general himself with the advice of his chief signal officer, but the exact location will be fixed by the signal officer on the ground. The main thing to be considered in the establishment of stations is proximity to localities where events are occurring and where intelligence is needed

or at which information is obtainable; a second point is accessibility to persons authorized to use them.

In visual signaling the establishment of stations is more difficult than with electrical communications, since the stations must have a wider range of view and are seldom near or accessible to commanding officers. In the camp or on the march the main station of the division will, of course, be at headquarters or at some other point designated by the general, but the lines will reach many points, and secondary stations will become so numerous that memory cannot be relied on. It is suggested then that telegraph or signal maps be prepared under the direction of the chief signal officer and corrected as frequently as may be necessary. These sketches should show lines and character of communications and signal stations, possibly the roads leading to them and but little else. They should be supplied to the proper persons, certainly to each headquarters of brigade and independent command with which communication is maintained, to all signal officers, and most important of all, to each commanding officer within whose lines such stations are placed. Of course it is not meant that no signal stations will be established except those foreseen by the commanding general and chief signal officer and fixed by them. On the contrary, temporary stations in great numbers will be constantly established and used, especially for the buzzer, wireless and visual signaling. But what is meant is merely to emphasize the importance of familiarity with what may be called the regular systems of communications of the army and its stations and the best manner of securing the highest degree of usefulness from them. If it be impracticable to frequently make the sketches suggested, though this should not be the case, as they are designed merely to show the location, lines, roads and signal stations, and can be made, no matter how roughly, by signal officers or non-commissioned officers in charge of stations, a memorandum should be sent, every day if necessary, to each officer in command at or near these stations, indicating the system and the location of stations for the day; the object being to prevent the loss of time in transmitting important intelligence, since it not infrequently happens that the value of information received from reconnaissance, from scouts, pickets, from prisoners or from chance observation is lost by delay in transmission. Signal officers and signalmen should, also, as a matter of course, inform themselves of the location of all field stations and the lines and objectives of the system.

The proper officers of the army being thus informed of the location of their signal stations should thoroughly acquaint themselves with the means of communication there installed and use them to the utmost limit. To do this some little knowledge of the possibilities of transmission is necessary on their part. For instance, when these means are merely visual, flags, the heliograph, or the acetylene lantern, whose rate of transmission is probably not more than three or four words per minute with the flag, and double that with the heliograph or light, it would be absurd to send from such stations long messages over short distances to points that a mounted orderly could more quickly reach than could the completed message. On the other hand, across long distances or the enemy's territory, over his head or intervening obstacles, all messages must be sent by signal. When electrical transmission is provided and speed is desirable, the messenger, of course, should not be thought of. But often it may be the natural impulse of a commanding officer to call an orderly and send a verbal or hastily scrawled message rather than to give the manner of transmission a thought. Care in this matter should be enjoined until familiarity with systems of communication and stations causes the use of the lines to become instinctive and the messenger to be forgotten. The subject of the communications requires some study and thought on the part of all.

In endeavoring to present the foregoing practical considerations the writer has, perhaps, tried the patience of such readers as may do him the honor to peruse this paper. Nevertheless, faultily as these ideas have been presented, he believes it unwise to curtail or omit them, trusting if defective in themselves they may inspire better efforts on the part of others. The demand upon all military men of the day is work, and work applied to the development of the great field offered by the service of the communications cannot help producing an abundant harvest. The signal corps cannot do this work alone; it needs the best assistance that the army as a whole can give, and that assistance can best be given the corps by service with the line troops.

As has been said, the signal corps of the army is now composed by law (omitting temporary assignments) of forty-six officers and one thousand two hundred and twelve enlisted men, a strength which bears the proportion of about one and three-quarters per cent. of the present authorized enlisted strength of

the army at large. Before the promulgation of the recent order* increasing the army to approximately seventy thousand men, the proportion of the signalmen to the total enlisted was about two per cent., but the increase reduced this to the present proportion of about one and three-quarters per cent. It should be evident, if allowance be made for absentees, the sick, changes of details from and to the Philippines and Alaska, and other losses, that the actual number is far too small to carry on properly the duties that the mobile army, the coast defense, the schools and the military authorities in Cuba, Alaska and the Philippines have a right to expect from a signal corps in peace. Should hostilities break out it would be too small to even leaven the large mass of men that must be called into the service of the intelligence communications. In reality, the present authorized force of the signal corps is about one-half the number proportionate to the maximum strength of the Regular Army, fixed at one hundred thousand men. The army may be increased to that number by executive order at any time, but the signal corps can only be increased by legislation.

The order referred to affords an excellent illustration of the faulty working of the present law as regards the signal corps, which should at all times have a just proportion to the total of the army as authorized by the President. In peace the smallest ratio that can be considered satisfactory is believed to be two and one-half per cent. of signalmen to the total enlisted; in war this must be increased. It must be exceeded, also, should the army be largely reduced in numbers, since many of the duties of the corps, such as fire control, telegraph and cable service in Alaska, do not depend directly upon the size of the army, while others do so depend. It follows that a maximum of two thousand five hundred signalmen should be authorized to correspond with a maximum of one hundred thousand men for the army at large; and that within limits the proportion of the first should vary with the last. Under the existing law, if need should arise while Congress was not in session to increase the army to one hundred thousand men the signal corps must remain at one thousand two hundred and twelve and bear a proportion of but little more than one per cent. (about $1^1/_5$) to the total effective; a quota ridic-

*Number 130, of June 12, 1907—before this order, omitting the Porto Rican Provisional Regiment, and the Philippine Scouts, the army had an authorized strength of 3869 commissioned officers and 62,516 inlisted men, 1212 of whom belonged to the signal corps, a proportion of about two men to the hundred. By the order above noted, the strength of the army was increased, by direction of the President, by 6460 men, giving a total of 68,975.

ulously small. In addition, it may be remarked that when commands are broken into small detachments, as often happens with our army, or when expeditionary forces are dispatched, as may at any time become necessary from the needs of our peculiar situation as regards distant regions, the percentage of signal troops must be greater than required for large bodies of troops serving in garrison or operating as units in the field, since each unit, large or small, must be provided with intelligence lines, and since the control of cables and base line stations must be given to signalmen. It should, therefore, be evident that in peace two thousand five hundred men ought to be allowed as a maximum for the service of the communications and that in war this number must be increased as the army is increased.

In war, under modern conditions, it is the belief of the writer that the proportion of signal troops, including balloon train and wireless, should not fall below four per cent. of the total. This would give seven hundred and twenty signalmen to a division composed of three brigades of infantry (of three regiments each), one regiment of cavalry, nine batteries of field-artillery, and the usual auxiliary troops, say eighteen thousand men in all. In other words, it would provide six companies of one hundred men each in addition to the balloon company of one hundred and twenty men. Or, if we consider the balloon train as a separate unit, outside the service of the communications proper, the percentage of signal troops becomes a trifle more than three. Probably about a just proportion, but not excessive, since it should be remembered that signal companies are constantly depleted by detachments assigned to commands operating independently, by others left at important positions on the flanks or at the rear, or placed at outlook stations at the front, and by still others as operators at the rear or with the field wireless telegraph.

Considering the division as the unit the six companies above mentioned would be equipped and designated as

One base line company,
Two telegraph companies,
Two field companies,
One wireless company,
One balloon company.

Or if the wireless is included in other companies, as indicated below, then

Three field companies.

The organization and equipment of these companies is outlined in the following provisional scheme:*

The signal corps troops to serve with each division should consist of one battalion of three companies, organized as follows:

A battalion:

1 Major, chief signal officer of the division,
1 Captain, adjutant, quartermaster and commissary,
1 Sergeant, 1st class, sergeant major,
1 Field company,
1 Telegraph company,
1 Base line company,
Total enlisted, 301.

A company:

1 Captain,
3 Lieutenants,
3 Master signal electricians,
10 Sergeants, 1st class,
10 Sergeants,
10 Corporals,
45 Privates, 1st class,
20 Privates,
2 Cooks,

Total enlisted, 100.

Companies of the signal corps to be classified according to equipment and duties as follows:

Field companies,
Telegraph companies,
Base line companies,
Balloon companies.

In general, the distribution of duties should be considered as follows:

Field Company.—To provide lines of communication for tactical use during combat, maneuver, rapid marches, etc.

Telegraph Company.—To provide lines of communication for administrative purposes, such as camp telephone systems, serving staff departments, supply depots, hospitals, etc.

Base Line Company.—To provide the lines of communication from the base of an army along the route of supply to the distribution points, connection to commercial telegraph and cable systems, etc.

Each cavalry division should have a battalion consisting of

*Furnished the writer from Washington; and though not, so far as known, adopted at this time (July 15, 1907,), still having the approval of the Chief Signal Officer of the Army.

two field companies and one telegraph company—the telegraph companies, in this case, should all be mounted.

To the headquarters of each army corps and each unit larger than an army corps, there should be assigned one additional field and one additional telegraph company to furnish communication service for such headquarters.

These companies should serve under the immediate direction of the chief signal officer of the headquarters to which they are assigned.

The base line companies of each battalion should usually be assigned for duty under the direction of the chief of telegraph and telephone service of the base and lines of communication instead of serving with the division.

A balloon company should be assigned to each army corps, army or expeditionary force, as circumstances warrant. The balloon company should serve under the immediate direction of the chief signal officer of the army in the field.

At present time the ballooning experiments have not been sufficiently complete to determine the most suitable equipment and transportation for a balloon company.

Each field company should be provided with equipment to furnish communication for a division by visual signals, wireless telegraphy, field and buzzer wire lines.

The amount of the equipment should be sufficient for the field company to construct, operate and maintain twenty miles field lines, forty miles buzzer line, four field wireless stations, consisting of one station and three pack sets with twenty miles radius, and six visual signal stations.

Transportation for a field company:

20 Riding horses,
3 Wire wagons, 4 mules each,
3 Instrument wagons, 2 mules each,
3 Lance trucks, 6 mules each,
} Special wagons supplied by the signal corps; to be driven by signalmen.
3 Construction wagons (quartermaster escort), 4 mules each,
2 Escort wagons (quartermaster) for company transportation, 4 mules each.

The Quartermaster's Department should furnish the following civilian employees: One assistant wagonmaster, one farrier and blacksmith and five teamsters. List of articles appended, 12,000 pounds lances, 4000 pounds wire on wire wagons and 10,000 pounds other supplies; total 26,000 pounds.

Each base line company should be provided with suitable

equipment to construct, maintain and operate telegraph and long-distance telephone over permanent or semi-permanent lines, fifty miles of three wires, and one wireless telegraph station capable of operating to 100 miles. Details from the base line companies will assist in the administration of signal corps depots of supply at bases and distribution points.

Transportation for a base line company:

20 Riding horses,
3 Instrument wagons, 2 mules each, } Special wagons supplied by
2 Wire wagons, 4 mules each, } signal corps; to be driv-
2 Lance trucks, 6 mules each, } en by signal corps men.
2 Construction wagons (quartermaster escort), 4 mules each,
2 Escort wagons, 4 mules each.

The Quartermaster's Department should provide the following civilian employees: One assistant wagonmaster, one farrier and blacksmith and four teamsters. In this case wagons for general transportation and construction; total weight of supplies, two million pounds.

The preceding paragraphs, which prescribe organization and equipment of various companies, may be amended to conform to exceptional conditions of service.

No means of communication will meet all conditions, therefore the signal corps will provide as great a variety of means of communication as practicable, and the signal corps officers in charge must determine what means to use for each particular case, to provide the most efficient service. This usually requires duplicate lines of different types and routes to insure against interruption.

The kind of lines, type of instruments or signal apparatus which ought to be carried by a signal corps detachment serving line troops in the field should not be prescribed. It should be left to the judgment of the senior signal officer present, and the amount would usually be limited by the transportation available.

A division in camp, when the duration warrants, should be supplied with the following telephone service by the signal corps: One telephone at each brigade headquarters, headquarters of divisional cavalry, headquarters of divisional artillery, engineer battalion, quartermaster supply depot, commissary supply depot, signal corps headquarters; two telephones at division headquarters, each field hospital, corral of ammunition and supply train, and to each regimental headquarters when the amount of material on hand warrants.

It is believed that the organization above given will answer well the needs of the Regular Army, but should war come and the great army of volunteers be called into service, the work of organizing and equipping a corps of the communications will be no slight task. This work has not been neglected, but space is lacking for more than a suggestion as to the numbers that will be required for the service of the communications in a great war. A fair estimate has been made of the strength of the volunteers that will be called to the colors, by an officer of the General Staff, but even he, in the opinion of the writer, places the number of men too low for the service of the communications. He remarks: "In any future war with any first-class power, and acting purely on the defensive, the United States will require a volunteer army of at least five hundred thousand men, in addition to the legal maximum strength of one hundred thousand men in the Regular Army. Of all the great nations of the earth, including even China, our country is the only one that has no system by which its forces can be rapidly placed upon a war footing.

"We have, on paper, about one hundred and twenty thousand men in our organized militia or National Guard, of whom only about thirty-three per cent. would be available for service in the volunteer army. Our regular establishment can supply the necessary complement of both line and staff-officers for the maximum strength of the Regular Army alone, and officers, line and staff, for four hundred and sixty thousand volunteers will have to be forthcoming. It has been usual in the past to allow one and one-half per cent. of the total strength for the service of the lines of information, and for six hundred thousand men we would then require nine thousand trained technical men for such service. The proper complement of officers for such a force is, in round numbers, four hundred and fifty."*

In the opinion of the writer, as indicated above, this estimate should at least be doubled. For a force of six hundred thousand men no less than twelve regiments of one thousand five hundred men each should be provided for the service of the communications. If the estimates above made are accepted as a criterion of the needs of the armies of the United States in war in the matter of the personnel of the intelligence communications, it appears evident that difficulty will be experienced, not only in supplying the men needed, but in obtaining the officers necessary

*Lieut.-Col. S. R. Reber, Signal Corps, in a paper read in 1906 before the Telephone Society of New York.

for their control and direction. Nevertheless it is believed that the men will be found and that the small nucleus of the peace establishment, aided by experienced officers of the National Guard, will sufficiently leaven the whole mass.

NOTE.—At present, signal companies exist for administration only. G. O. No. 146, War Department, Washington, D. C., July 5, 1907, gives the following as the normal organization of a signal company assigned to a division in the field:

1 Captain.
3 First lieutenants.
1 Sergeant acting as first sergeant.
1 Sergeant acting as quartermaster-sergeant.
20 Sergeants, first-class.
41 Sergeants.
10 Corporals.
74 Privates.
4 Cooks.

150 Total enlisted.

This company is to have charge of visual signaling, telegraphy, telephony and wireless communications.

[TO BE CONTINUED.]

NOTES ON THE NEW JAPANESE INFANTRY TRAINING.

COLLATED BY CAPTAIN T. H. LOW, U. S. M. C.

[*From translation in Journal Royal United Service Institution of an article by Major Ishiura Kenjiro, Imperial Japanese Infantry.*]

A NEW provisional infantry training superseding the former one of 1898 was promulgated in Japan last December. Embodying as it does the "lessons of the war," a comparison of it is especially interesting.

The innovations are few and tend toward uniformity with the British infantry training. Practical performance in the field is made the test. Essentials are emphasized, as well as the cultivation of individual intelligence and initiative. Following the lines of all recent revisions, the feature of this one is curtailment of all formal movements, with simplification and clearness of methods. Extended order is made more elastic to enable the ever-changing emergencies of war to be met. Great latitude in choice of methods is allowed leaders in field-training. Indeed, in all that part of the drill book relating to fighting, general principles are made to take the place of rigid rules. It is the end, rather than the means, that is constantly emphasized, and much is left to the judgment of the officer, to be decided according to the exigencies of the moment. Thus, more responsibility is thrown on the officers, in spite of the youth of most of them.

Though the importance of extended order drill and practical exercises is greatly increased, the value of close-order drill is fully recognized. No attempt is made to weld them together, but the essentially distinct character of each is indicated. While the polish of the old drill may be lacking, any tendency of the rougher and readier methods toward carelessness or slackness is combated by requiring the greatest uniformity and precision in close order. To further discourage slackness, all the practical exercises must be preceded by clear explanations of the object to be attained. This must be followed by detailed instruction on how best to accomplish the objective, together with warning, as to the probable difficulties that must be over-

come. Finally, as an additional means of tightening the bonds of discipline, and strengthening the morale, strictness in the interior discipline of barrack life is relied on.

Reduced length of services in the ranks is met by reducing, as well as simplifying the movements of close order. All those, whose use in practice is comparatively rare, are cut out, while the distinct character of "Ceremonial" is emphasized by its publication in a separate book. In battalion drill, double column of companies is abolished, and the normal formations of the battalion reduced to two, line of company columns and column of sections. Both of these are practical marching formations, enabling troops to take advantage of natural cover, and conveniently march over broken ground, while allowing full control by the battalion commander. Moreover, there are, apparently, no fixed methods laid down for gaining these formations, but methods may be adopted suitable for the occasion. In the regimental drill, all commands of the colonel, both preparatory and of execution, are superseded by either written orders or verbal instructions.

In company drill, forming square is canceled, as its practical usefulness was found to be rare. Only one method is provided for changing direction instead of two, as formerly. Dressing is simplified to accord with our methods. The former practice required every man to cover off by file to the front when in column, and was most intricate. As also in our own case, the introduction of a distinct movement to reduce front in column of squads is cut out.

On the other hand, new movements are authorized in extended order. Additional instructions are laid down as to the deployment of a battalion, and means are provided for assembling its skirmishers to any desired formation, column as well as line. The general principles of attack, such as keeping one company in reserve, are also elaborated. The interval between skirmishers is now fixed at two paces approximately, instead of from one to two, as in the old drill. Indeed, the increase in distances and intervals in the new drill is significant.

In the marchings, the same tendency toward simplicity and practicability is apparent. The old modified goose step is superseded by a more natural one. "Stepping back" is altogether omitted, also the special charging step, which, formerly, immediately preceded the charge. Though the normal length of the rushes is still set at about a hundred yards, it must now be

made at the fastest pace (on the run), instead of at the double, as formerly.

It is curious to note that the old position of attention for the Japanese soldier, with feet at 90 degrees and palms turned out at 45 degrees, has been changed to conform with our own position as being more natural. On the other hand, their new kneeling position is made more dissimilar by requiring the right leg to rest on the ground. While for us this would be an almost impossible position, for them it is a more natural one, being a half sitting position.

The detailed instructions as to the firings are most interesting. For all of them extended order is laid down as the normal formation. The old slow fire, executed alternately by file, is now dropped, and instruction in volley firing is decreased. Only two forms of individual fire are recognized, the ordinary and the rapid. Special stress is placed on the fact that effectiveness of fire is more dependent on steadiness and deliberateness than on rapidity. The value of quickness, however, is emphasized in loading, in assuming easy positions, suitable to the ground and range, in picking up targets, no matter how obscure, and in the proper adjustment of sights. The importance of choosing the right moment to fire is also noted. On halting skirmishers, the position is no longer designated, as the impracticability on varied ground of uniformity in position is recognized. Loading on the move is canceled, as it was found liable to cause delays and to be injurious to discipline.

NOTES ON RIFLE PRACTICE IN AUSTRALASIA.

By Major W. C. BROWN, Third Cavalry.

WHAT we are attempting in the United States through the means of the National Rifle Association is an established fact in Australia. Every town of any considerable size has its rifle club and target range. The Randwick range, near Sydney, N. S. W., is equipped with ninety targets with ranges up to 1000 yards. I had no means of judging of the efficiency of the Australians as rifle shots, but the efforts to this end which are being made fully warranted the assumption that they are rapidly developing an army of expert shots. The membership of their rifle clubs, I was informed, is no less than 40,000.

More attention is paid to moving or disappearing targets and to field firing than with us.

The writer was present at the Launceston range on the last afternoon of the preliminary practice of the Tasmanian Rifle Association for the Federal Rifle Match, which took place December 26-29, 1906. Riflemen had gathered here from all over Australia. Their program called for fourteen matches.

Nos. 1 to 6, inclusive, and Nos. 11 and 14, were ordinary known distance fireing at ranges from 200 to 900 yards.

No. 7, rapid firing at disappearing targets at 200 yards distance, the target a disc eighteen inches in diameter, colored khaki, with a bull's-eye, invisible to the firer, eight inches in diameter, counting four points, remainder of target two points. The target to appear eight times for four seconds, with intervals of six seconds between appearances.

No. 8, moving target, continuous. The target being the picture of a crouching man colored khaki.

No. 9, team snap shooting. Rapid firing at a figure of a man appearing and disappearing at intervals and at unknown distances. Team advancing on the target somewhat as in our skirmish firing. Targets appearing for ten seconds, intervals of disappearance from twenty to forty seconds.

No. 10, skirmish firing at irregular and unknown distances, the line commencing to advance at about 1200 yards.

b. Teams to advance at the trail at three paces interval, by command of the umpire.

c. On the appearance of the targets, teams will halt and fire in any military position, as many rounds as they choose.

d. On the disappearance of the targets the men will unload and the teams will advance with trailed arms. On the reappearance of the targets the teams will halt and fire as before.

e. A third advance will be made on the same condition.

f. A fourth advance will be made at the double time, halting and firing as before.

g. Teams will then be marched to a flank and fronted by the umpire. On the appearance of the targets, teams will fire again.

h. Magazines not allowed. Forty rounds of ammunition to be issued to each man.

i. Targets will appear five times at irregular and unknown intervals at the discretion of the umpire. Each hit to count one.

No. 12, open to teams of ten men each. Targets 6 x 6 feet, on which is (during the first stage) the figure of a man colored khaki, and (during the second stage) the head and shoulders of a man colored khaki, apparently in the act of firing; the targets will appear and disappear at intervals.

Scoring: Every hit on the figure of a man, or on the head and shoulders, to count one point.

In the first stage teams will be formed up at 700 to 800 yards from the targets, and will advance with arms at the trail, by order of the executive officer.

a. At a given signal, the targets will appear for twenty seconds, during which every man will load and fire as many shots as he thinks fit.

b. Immediately on the disappearance of the targets, the men will unload and the whole team will advance with trailed arms.

c. Targets will appear four times more, each time for fifteen seconds, and the interval of disappearance will be varied between twenty and forty seconds, at the discretion of the executive officer. As soon as the targets appear the teams will halt, and every competitor will fire as many shots as he thinks fit; as soon as they disappear the men will unload and advance as before directed.

d. When a point about 400 yards from the targets has been reached, the teams will halt (on the bugle sounding) and lie down, but not load.

Instructions.—Second stage: On the command from the executive or range officer, the team will advance and at a given

signal the head and shoulders targets will appear for forty seconds, during which time the competitors will halt, load and fire as many shots as they please.

On the disappearance of the targets the whole team will retire in quick time, unload, and at a given signal from the executive officer, will halt, lie down, load and watch for the appearance of the targets. The targets will appear at unknown and irregular intervals, five (5) times, for five seconds each time; and at each appearance every competitor will fire one shot or more as he thinks fit, and need not unload or move from his position until the last disappearance of the targets, when on the bugle sounding "Cease Fire" every man will unload, rise and stand at ease.

It will be seen that the five matches last mentioned contemplate firing under quite difficult conditions, more so than anything found in our firing regulations, or which takes place at our annual competitions.

It must be admitted, however, that this is exactly the kind of work which we must do in war—therefore why not practice it in time of peace. Our firing regulations are excellent as far as they go, but they do not go far enough.

At Christchurch, New Zealand, the writer witnessed a competition between teams selected from the various companies of Volunteers in the Canterbury Valley; the competition being open to squads comprising an officer, two sergeants, a bugler and sixteen privates. It was a combined tactical maneuver and rifle contest; the targets, part of which were of the disappearing order, represented a small party of the enemy with a Maxim gun, which had taken up a position on a hill from which they were to be dislodged by a combination of direct and flank attacks. Umpires followed the movement awarding points for the command of the squad, method of conducting the attack, taking of cover, control of fire and number of hits recorded on the target. The firing was all done under service conditions and the whole exercise was of an extremely practical nature, thirty rounds of ball ammunition per man being used.

An examination of the "English Musketry Regulations," edition 1905, shows that our English cousins are fully alive to the fact that rifle practice should be made as practical as possible. Their methods are doubtless more or less the outcome of their experience in the Boer War. No less than twenty-eight schemes for field practice are outlined in these regulations. These are simple tactical schemes which afford progressive training to all con-

cerned and serve to illustrate the various phases which may be expected on active service, and test the capacity of non-commissioned officers for leading and controlling the fire of their squads.

Quoting from their musketry regulations: "After the usual known distance firing the soldier is trained in taking up an indistinct target such as is likely to be presented in war, in estimating its range, in rapidly opening fire and in making the best use of ground." * * * "In war the unforseen often happens and the more all ranks are practiced in peace to act in unexpected circumstances the better they will be prepared to meet them if the occasion demands." * * * "Targets are arranged so as to contain an element of surprise. Targets should at first be sufficiently exposed to be distinctly visible, and gradually become more difficult; and arrangements should be made to demonstrate the results of effective fire by the employment of targets which can be lowered when struck, or which fall automatically. These latter targets are provided for in the falling iron target, made of ⅜-inch plate about 12 inches square, provided with a slight base so that it will stand on any ground and fall when struck by a bullet. The plate may be colored as required."

In the judging distance test, the observer is required to estimate from behind cover in a kneeling or lying position and is allowed but half a minute in which to make his estimate. In the range practice the instructor is not permitted to set the recruit's sight but every effort is made to develop his intelligence and reasoning powers. The Commonwealth Forces in Australia comprise approximately 1300 permanent troops, 15,000 militia and 5000 volunteers. The pay of the Australian militia is about $12.50 per man per year and for this he performs about eight days' service in camp, with weekly drills the remainder of the year, about the same as our National Guard. The volunteer troops serve without pay.

Much attention is paid to the military training of the youth of the country by the organization and training of cadet corps in boys' schools.

THE GERMAN IDEA OF THE USE OF FORTRESSES IN MODERN WAR.

(From the Revue Militaire des Armées étrangères.)

TRANSLATED BY BRIG.-GEN. FRANK TAYLOR, U. S. ARMY.

THE fourth part of the "Studies of History and Tactics," published by the German General Staff, is devoted to "Fortresses in the Wars of Napoleon and Wars of Modern Times." The preamble sets forth that "The General Staff has been guided in the choice of this subject from the conviction that at the present time it is the object of the greatest interest in all parts of the army." This would seem to be confirmed by the fact that a great number of works have lately been published in Germany discussing the subject from most diverse historical, strategical and technical standpoints.

With the same reserve characterizing their former publications the German staff, although having made notes on the narrative of each event, cautiously refrain from generalizations. They leave the reader to adapt to modern times the instruction he derives from the wars of the past. Comparing the work with the writings of the military leaders who have imbibed from the same source, it is of great interest. It may contribute materially to the settlement of certain points of the German doctrine on a subject which the General Staff declares to be the question of the hour.

It cannot be denied that a sudden change has taken place in the German idea of the usefulness and importance of fortresses.

"The importance attached to fortresses in the wars of the last centuries fluctuates a great deal. Naturally the amount of resistance that fortifications are capable of opposing to attack, influences, in great measure, the conduct of the war. The uninterrupted progress of science will not produce uniformity of opinion in the future any more than in the past. It claims at one time temporary superiority for the attack, and at another for the defense, which results in incessant fluctuations of the value attributed to fortresses.

"But military history also teaches that technical improvements are not the sole cause of these fluctuations. The spirit

governing a war exercises a preponderating influence in that domain. In a general way the predilection for fortresses corresponds with the periods when the conduct of the war has been timid, limited to the pursuit of geographical objectives, whereas in great decisive epochs the destruction of the enemy's forces is sought and attained, in spite of all obstacles of fortifications."

It would appear that in the estimation of the Germans there are exceptions serving to confirm this general rule; for if in these days they evince a greater predilection for fortresses, we cannot discern in them—as we shall see later on—the slightest tendency to the more timorous mode of warfare, nor less eagerness for the decisive.

During the twenty years following the war of 1870, the Germans have never ceased criticizing our infatuation for the fortress and the extravagance of our defensive organization.

It may be said that with the exception of Strasburg, they constructed no stronghold during that period, and the most eminent military writers viewed this as a manifestation of strength and preference for the offensive.

"Extensive plans of fortification," says von der Goltz, "denote a sense of weakness. A nation imbued with the offensive spirit will use them in moderation. The nation seeking safety behind intrenchments and ditches has no consciousness of strength.

"It is more convenient," says Blume, "for a people to seek its salvation from walls than to endeavor by arduous work to preserve that spirit and activity which induces the skilful use of the sword. An exaggerated tendency to the use of fortifications grows out of an unconscious sensation of weakness, fortresses being of service only with an enemy of superior strength."

And technical men, arguing from what happened at Plevna, join in the cry against permanent fortifications.

"Fortified places," says Sauer, substantially, "very imperfectly fulfil their task. They no longer protect a frontier, no longer interdict invasion, no longer assure the shelter of the great army depots. In the future they will be used only for the momentary protection of the great war establishments and as provisionary barriers to the keys to railway systems, which the enemy would be unable to turn." According to that it would be logical to abandon all the fortified positions not answering these conditions. On the other hand, the improvised fortifications designed to second the operations of the army in the field

will, in the future, probably play the part which the old fortifications are now incapable of doing.

Since 1888, however, there has been a reaction. In his work on the "Conduct of War" von der Goltz expatiates on the powerful aid (he cites Metz as an example) which permanent fortifications can give to operations, and the theories of Sauer begin to be looked on as a day-dream. Whatever may be the causes—which we shall attempt to discover in the course of this study—the fact is undeniable that for several years past great activity has been displayed in fortification work in Germany. Speaking only of the western frontier of the Empire, numerous works have been erected in the valley of the Rhine at Molsheim, Neuf-Brisach and Istein. In Lorraine a fort has been constructed at Guentrange, near Thionville; the perimeter of Metz has been extended toward the west and south by the works at Saulny, Point du Jour and Saint-Blaise. It is well known that the defensive system of Alsace-Lorraine has been completely transformed.

The changes in ideas are well marked in the successive budgets of the German Empire. Up to 1893 the trifling sums appropriated for fortifications were for "keeping up and perfecting existing works." In 1893 the budget sets forth that "the appropriations made up to this time are no longer sufficient for strengthening important fortified positions and for profiting from the recent technical progress in that domain."

From that period, and up to 1899, the annual appropriations for fortifications were increased from 3,000,000 to 7,000,000 francs. For the year 1899, in one bound, they reach the sum of 12,500,000 francs; they become, normally, for the years following (1900 to 1906) 18,750,000 francs, "to which is added the proceeds from the sale of the land and material of the abandoned enceintes," a sum amounting to from 22,000,000 to 25,000,000 francs. Despite objections made at the beginning, these credits were regularly granted by the Parliament, the Minister of War having affirmed the necessity of repairing little by little the large fortified places, of transforming and perfecting the defensive system of the Empire to adapt it to the new conditions of modern warfare.

* * * * * *

Among the many causes attributed to this return to favor of fortifications there is one purely technical, which should be first mentioned in its true order of importance. It is that relating to

the development of resistance in the means of defense. Indeed, the General Staff has come to the conclusion, as in the time of Frederick the Great, that "Despite all the work done on formidable looking fortifications, those of our day are no longer impregnable." Sauer's theories are very little honored, since concrete and armor-plating have demonstrated their powers of resistance to explosive projectiles. It it no longer disputed in Germany that the great modern fortifications, well constructed and armed, abundantly supplied and energetically defended, are capable of a long resistance. But this argument would not in itself explain the necessity of constructing an extended network of fortifications which elsewhere have been objected to as great disadvantages.

"That which is of the greatest importance," says Bernhardi, "is to prepare operations as completely as possible by making all the material means of the State contribute to that end. Every other consideration should be subordinate to this primordial necessity. This truth is particularly applicable to fortifications, a means of defense bound to the soil, useful only if attacked and having the disadvantage of diverting from the theater of decivive action enormous resources of personnel and materiél."

"If it is true that maneuvering is perhaps even more necessary in the defense than in the attack, *then the only fortresses having a reason for existence are those which, according to the forecast, will be of positive service in conducting the operations.*" Any fortress that does not respond to these conditions, and whose cost in resources is more than it should be to that end, seems to me to be useless, since its action is outside the field of decisive battle, and, setting aside exceptions which prove the rule, I cannot deny that the laws of Sparta, which forbade every sort of fortification, appear to me to have a profound significance from a military point of view. The resources economized by the reduction of fortifications effect an important gain for the preparations of the war in the field." (Conference of the Military Society of Berlin.)

Von Moltke had already said more succinctly: "The strategic value of a fortress is the only point to consider in deciding whether there is occasion for devoting large means toward restoring or enlarging it. So far as construction is concerned, its condition is only a secondary consideration in determining what should be done for it, according to the requirements of the time being."

It would be the utmost childishness to insist on the idea that the Germans have erected fortresses, not because they are strong, but rather because they are useful. It is, therefore, only by investigating the German doctrine on the eventual employment of fortresses and the part they may be called on to play under the various circumstances of war, that the reasons determining their construction can be explained.

We must, first of all, refute the idea that the extension of fortification would be a symptom of weakness in the offensive tendency of the German Army. Never, perhaps, since the time when the great king exalted that tendency in pompous verse, urging the attack at all times and declaring that "Bellone announces a happy destiny and brilliant deeds so long as your troops are the assailants," has the spirit of the offensive been so strong in the Germans as it is to-day. There is no end to the diverse manifestations of this ultra-offensive spirit among German military writers. But it will be interesting to fix the attention on the one who from official connection would seem to reflect most exactly the present doctrine of the German General Staff.

"To sum up, the principle governing all the art of war rests in the offensive. * * * The offensive is the mistress of every issue in war; it is the primordial principle thereof. * * * The offensive, either direct or indirect, is the law on every side; it is first and last the determining principle. * * * Even though tactically in a battle of firearms, the defensive should appear to be the stronger mode of combat, the offensive is much the better way of making war. * * * The strategic and moral superiority of the offensive will always carry the day. * * * The superiority of the offensive resides in the fact that audacity is its birthright, a creative might whose true birthplace is the offensive. * * *"

These aphorisms are justified by a more concise argument: "The offensive is the favorite child of Bellone. It counts with relative superiority, while the other, the defensive, counts with absolute superiority; the first acts with entire liberty, while the other is bound down by the extent and configuration of the theater of the war. The offensive is conducted with all its forces united, whereas the defensive is forced by the different possibilities of the attack to separate them; on the one side the object is precise and plain, on the other it is problematical; on the part of one, active will; on the other, passive; here boldness, there

prudence, Hannibal *versus* Fabius Cunctator. Who can doubt that the great Carthagenian would have been victorious if his country had not abandoned him?"

Finally, leaving the serene region of generalities to face the concrete case, the author again affirms his opinion, at times in phrases flavored with threatening language: "We are facing to-day a much greater crisis than the strife for German unity. The question then was whether Germany would succeed in uniting and acquire a place among the great Continental powers; but now the question is, shall Germany command a place among the great powers of the world, or shall she allow herself to fall back to the second rank? If all signs do not fail, that question, in spite of all the arbitration treaties and peace congresses, will be settled by blood and steel. For myself, I am convinced that we shall come out of the struggle victoriously, whoever may be our adversary, if we only succeed in keeping up and fortifying the warlike spirit of our people, *in developing our military strength in the direction of offensive warfare,* in pushing them to the highest degree of production, that is to say, in increasing to the utmost, among our troops, the aptitude for operations and boldness in battle. We must convert all the useful means at our command into live proficiency, not indirectly, *but directly looking toward offensive war.* We must, in fact, put into practice everything tending to form independent characters, men who will act with confidence and wide liberty of judgment; in a word, *men capable of acts of boldness.*"

While recognizing, in general, this evident predilection for the offensive, one might ask, for instance, if the construction of a fortified network on the western frontier of the Empire has not been occasioned by a modification, supervening about the same time, in the grouping of the great European powers, and if in the event of a war to be carried on in two distinct theaters of operations, Germany would not adopt a defensive attitude on that frontier. However that might be, it is safe to say that the use of fortresses would not lead the Germans to maintain their army in a defensive attitude protected by them. It even seems certain that the fact of being menaced on two of their frontiers would, on the contrary, determine them all the more rapidly to seek decisive action in the direction where the enemy would be more within their reach.

And when the necessity of covering a frontier of the Empire causes numerical inferiority on the principal field of operations,

it would be another reason for seeking decisive action by taking the offensive. This idea, which to some may appear paradoxical, is forcibly expressed by Bernhardi: "The defensive should only be employed where the offensive has lost all the advantage which belong to it; that is to say, where it would be bound down to a well-fixed direction of attack, or where, fighting only to gain time, the object is to avoid decisive action. History teaches that, thanks to the offensive, armies have inflicted decisive defeats on adversaries much stronger than themselves, and though on the defensive inferior numbers have been well able to successfully repulse the attack of considerably stronger forces, they have never been able to obtain a positively decisive success. There is no doubt that there are limits. In seeking victory with an inferior force, that force should invariably be strong enough to fight a sufficiently considerable part of the enemy's force in a decisive manner so as to establish the equilibrium by defeating it. It is the law of numbers. But, acting within the limits fixed by that law, to be logical, *the weaker should always act on the offensive*. The weak and wavering only can, in such case, act on the defensive."

In this theory (offensive by the weaker)—reference to which will be made later—we may discover an especially judicious utilization of fortified places.

* * * * * *

All the preceding abundantly proves that German fortresses are not expected to play a passive part. We may safely predict that they will be used for the protection of more or less extensive portions of territory, in the possession of which the Germans undoubtedly, outside all strategical considerations, attach particular value. To conceive a passive part for them would be going backward 300 years, to the time of the wars in the low countries and the Thirty-years' War, "when, as the General Staff says, for reasons justified by existing circumstances, the existence of a people was not the question, but the possession of localities and fortresses in the contested provinces." In the eyes of the General Staff, "one of the principal merits of Frederick the Great was in having overturned the methods of so-called cabinet warfare and of having realized that in the new conditions anxiety to keep the fortresses should exercise no influence whatever in operations, so long as there was an enemy to fight in the open field."

The allotments made by the German military authorities for fortresses are more easily explained by the part they may have to play as depots. "A large army," says Blume, "needs depots of all sorts when it is extended beyond the frontier. These depots should be protected against the enemy, and when he is active and energetic, if recourse is not had to fortifications, the demand for forces is so great that the main action of the troops is crippled. Therefore, on national territory the depots for war material should be inside fortified places, when not sufficiently secure by their distance from the scene of operations. In the case of an offensive war in an enemy's country it is of advantage to possess one or several fortified depots on the frontier."

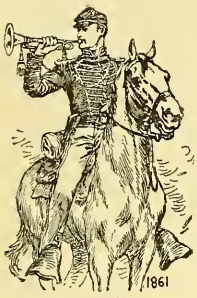
The same opinion is expressed by Schröter, whose argument is more objectively fitted to the French frontier: "Acceleration of the strategical deployment can be obtained by diminution of railroad transport for concentration movements. This would happen, for instance, if a part of the war material, such as the heavy artillery and its stores, had been deposited since peace times, near the frontier. But they should, during that time, be protected against any attempt of the enemy, and that requires that they be shut up in fortresses."

Moltke has always denied the necessity of fortified places for depots in the immediate vicinity of the frontier, notably in 1867, when he showed all his circumspection on the subject of the enlargement of Sarrelouis: "I cannot rate its value so much as a depot in case of the offensive. A good railway system in our rear, which we absolutely must establish on the Rhine, will completely assure our base of supplies, even if our depots are in fortresses bordering on the river. I must renew the advice I gave on that subject, which is, that we must use all the means at our command for the country's defense, in the construction of strategic lines of railway."

Blume, somewhat in contradiction of his former opinion, develops the same idea: "In a war where a complete railway system can be utilized, the necessity for fortified depots is less apparent. With railways we can rapidly, at the needful moment, draw from the country every description of supplies, even from the most distant points, which, without them, would have to be placed near the theater of the war and collected in depots, so as to have them at hand in ample time."

PRACTICE MARCHES IN THE TROPICS.

By Major S. J. ROCKENBACH, Philippine Scouts.



UNDER the provisions of G. O. 23 and 44, W. D., 1906, and G. O. 19 and 34 Philippines Division, 1906, the infantry has had a year's experience in marching with the field-kit. This has been of great benefit, and will result, unless the writer's experience has been peculiar, in a decided change for tropical service in the method of carrying the pack and in the articles which compose it.

In the Fifth Battalion of Philippine Scouts a rigid compliance with the orders revealed men physically unfit for service and others so lacking in esprit or knowledge, that they were an impediment on the march. Formerly, every company could put from thirty to sixty per cent. in the field able to make good marches, but in one way or another the old and weak escaped field-service, and field-service authorized the employment of cargadores, so that till the enforcement of the orders for practice marches it was not known what one hundred per cent. of the company could do carrying the field-kit. Men were found with asthma and subject to heat exhaustion. Neither can march, and their discharge was obtained. The burden of war is much lightened if we start on it with only men physically fit for campaigning; our Regular Army must be ready for campaigning. The percentage necessary is 100.

It is harped on in the cavalry that the rate of march is that of the slowest horse; that the horses must be uniformly gaited. It is essential in the infantry to work on the slowest man and bring him up to the required step and cadence. Companies must be gaited over a measured course until they march uniformly, if the battalion is to march well.

In the dry season there should be no marching between 9 A. M. and 4 P. M. More can be accomplished, and with a minimum of fatigue, between 1 A. M. and 9 A. M. In the rainy season circumstances modify the time, but the essentials are the same. Under a tropical sun and a cloudless sky men cannot stand marching, when that sun is over forty degrees high; they

must have daylight to cook in, to care for their persons and to prepare camp in order to get the necessary rest.

Marching largely depends on the mental condition of the individual. Probably due to racial characteristics, we make less appeal to the sentiment of our men and teach less patriotism than do foreign nations. It is another of the things that we leave till war overtakes us, confident that the American will do all that is required of him. In time of peace we must appeal to their pride. Get a company to believe it can march another off its feet, and you will have to keep sharp watch that it does not do so. No one ever fell out of the advance guard. A scouting party sent out in advance of the battalion with orders to seize and hold a ferry goes, with the same halts, seventeen miles in an hour's less time than the battalion. The men of the second rate and rear companies are wearied by the monotonous view of the backs of the men in front of them. Those companies require the strong, cheerful officers to inpire them. Music, a song, or a tune whistled are inspiring. It is a question if not keeping step is resting; there is a swing to a column in step that helps it along, frequent changes of step are believed to be more beneficial. Weeding out, consideration and study of the circumstances of climate and of the mental attitude has in a year produced a battalion (380 men) able to march without straggling seventeen miles in seven hours on the road, or five and one-quarter hours actual marching. This was impossible a year ago.

THE FIELD-KIT.

The Shoe.—None of the shoes furnished—the old shoe, the garrison shoe, or the field-shoe—are suited for service in the tropics. The old shoe, made fuller, so as not to press the toes, of moccasin, or foot form, the sole not less than one-half inch thick and hob-nailed, the upper of canvas, or of as light leather as the requirements of strength will permit, without bellows tongue, and two holes one-eighth of an inch in diameter, punched at the bottom of the counter on either side of the rear seam, so as not to hold water, makes the best shoe. The care of the shoe is of but little less importance than the shoe itself. If after using the shoe in mud and water, a tree is put into it, or it is stuffed with hay, grass or leaves, or rags, cleaned, dried in the shade and then coated with neats foot oil, its life is trebled. Very little oil is required. If each squad is provided

with a three-quarter inch flat paint brush, one dipping of the brush into the oil will suffice to coat a pair of shoes. A shoe thus treated half a dozen times in garrison gives the soldier a shoe for the field that is comfortable and will wear till the thread rots; then it is not expensive to repair. In cold climates, for warmth, a shoe must be large enough to take the yarn-ribbed sock without the least constraint on the foot. In the tropics a shoe must not bind the foot, nor must it be large enough to rub. This requires a shoe to be close fitting on the start and to be tightened by the laces after an hour's march through mud and water.

Socks.—The light woolen sock is the best. It furnishes a cushion to the foot, absorbs perspiration, keeps off leeches and, if when wet it is taken off and wrung out, it can be put back on and slept in without taking cold.

The Legging.—A legging suitable for all tropical service is an impossibility, for it would have to be light for comfort, heavy and strong to protect the legs, of canvas or leather to keep from getting snagged, of wool to be noiseless and protect from leeches. The only solution is to have a woolen spiral woven puttee for stalking and where there are leeches, and a canvas legging for other service. The legging should be taken off on reaching camp.

Breeches.—It costs, in the United States, from eighteen to thirty dollars to get a pair of breeches made that will not hinder a man in scaling a ten-foot wall. It is impossible to issue breeches that will not do so. Send out a cut of the desired shape and let each man have his breeches made; it won't cost the man any more and he will get better material and workmanship. The enlisted man, if he takes off his leggings, as he should do on returning to garrison, must stay in quarters, as khaki trousers are not issued.

The Flannel Shirt.—This is the shirt for tropical marching and is hard to improve. A light woolen sweater that cannot be opened at the chest prevents sudden chilling and, when the belt is taken off, the body is cooled gradually and pleasantly from below. At night men should be required to take off, or loosen, belts, and pull the shirt out of the breeches. The clothing of the Oriental is ideal for repose; we can imitate it on reaching camp by pulling the shirt out of the breeches. Our provincial ideas on the subject would not be shocked, if the shirt were a sweater. The difficulties in the way of keeping the soldier looking natty

in the field in the tropics are many more than it would be to make the salt marsh snipe hunter look dressed up.

The Service Hat.—The $5 Stetson hat cannot be improved on. One has had constant tropical use since August, 1903, and is still a good hat and looks well. It has been cleaned, resized and a new band put in once a year; this can be done almost everywhere in the Philippines at little cost. One good hat is better and as cheap as three low-priced ones.

The Blanket.—There is little variation in temperature in the tropics; cool or hot depends on the breeze and shade. The native has little clothing and no cover. He closes his hut tight at night, all the air comes through the floor and there is no draft. Both the native and foreigner are very sensitive to cold; neither can endure warm clothing; the thing to do is to avoid the draft. The soldier cannot be shut up in huts, but he can be put on the leeward side of a clump of bamboo and his belly protected. Half the light woolen blanket is all that is needed, this gives a blanket five feet six by three feet ten inches.

Mosquito Bar.—In the Philippines a mosquito bar is essential not only as protection, but also to obtain the quietness necessary for sleep. But why carry a bar designed for spring beds in barracks. A piece of netting three feet square, held off the face by the hat, or two pieces of bamboo like the bows of a wagon, is all that is necessary.

The Mess Kit.—The canteen, meat can, cup, knife, fork and spoon should be of aluminum and nested in a sack as the Preston Mess Kit. A very few trials stops one carrying meat in the meat can; it gets dirty and molds over night. The meat can is a poor cooking utensil. The cup is mainly used as a boiler and it is not a good one. It is a nuisance wherever carried. The knife should have a first-rate steel blade and aluminum handle.

Mounted officers should have the Preston Kit with both the infantry and cavalry canteen strap, for they will frequently walk.

The Haversack—should be a knapsack with suitable carrying straps and straps for attaching the roll. All armies, except the Russian, Spanish and the United States carry the pack on the back. This, it seems, should be sufficient reason for us to change. In addition, hunters, trappers and the scout, if left to himself, carry the pack on the back. Recently, after two days' march, the writer asked an officer, whose endurance is noted, how he felt. He replied, "As if I had a toothache where the roll crosses my

shoulder." That we can carry anything in any way, that the knights of old wore armor, is no reason for a man in the tropics wearing a sweat jacket, as the roll is, and carrying things designed for the climate of the United States. That the Philippine scout, whose average weight is under 110 pounds should carry forty-six pounds, seems unreasonable. The heat from the roll, and the haversack flapping against the legs, frequently as low down as the knees, is not conducive to getting him where needed in good condition. Left to himself, the scout would only carry his rifle, cartridge belt, ammunition, canteen, haversack on the back containing all the rations he can get into it and a good bamboo cutting bolo. Thus equipped, he is a valuable fighting machine.

San Isidro, N. E., P. I., March, 1907.

TO INSTRUCT A RECRUIT HOW TO SHOOT.*

By Corporal JESSE W. BARRY, Company A, Tenth Infantry.

TO instruct a recruit how to shoot with any degree of accuracy, we will all have to admit, is no small task and requires much time. No doubt many things will arise to discourage him before he has accomplished the end desired; he may be of a disposition to sorely try the patience of his instructor, or a man whose interest it is hard to maintain, or he may be slow to grasp the points as they are explained, and we may have to repeat many things to him which others would easily learn before he is able to thoroughly understand the benefit to be derived from a course of instruction. Therefore it is necessary in the beginning for the instructor to understand his man, study him, as to his disposition, temperament, habits, etc., and above all things, if it is possible to do so, gain his confidence; for until this is done 'twill be difficult to hold his attention any great length of time, which is very essential in order that rapid progress may be made. The instructor should constantly impress upon the mind of the recruit the importance of becoming a good shot; not only that it is a qualification for a good soldier or for the pride of being able to shoot well, but to be a good shot is a means of self-defense that will also add to his pay, which is a very important factor, and that the most important of all is that he will be a most valuable soldier upon the battle-field; and to be dreaded by the enemy upon the battle-field often leads to victory.

In the first place the instructor should point out to the recruit the different parts of the rifle, the use of each, and the parts that are the most easily broken or damaged, and give him an idea of the general principles governing the motion of projectiles. Following this he should then be taught the care and preservation of his piece; the fact must be made clear to him that good shooting cannot be accomplished unless this is done, and *done properly*. He should also have it explained to him that many poor

*Read before the School of Musketry, Pacific Division, by the Author, a Member of the First Class.

scores are constantly being made from causes which, if the truth were known, could be traced to the fact that the rifling had been damaged by some one not knowing how to properly care for the piece, or that it has become damaged through some carelessness.

Now that the recruit has been properly instructed as to the importance of having his piece in the very best of condition at all times, the next step to be taken in instruction is to teach him the different sights, the advantages and disadvantages of each; he should not only be told the difference in the sights, but should be shown by a diagram upon a blackboard or a large piece of paper. Then he should be thoroughly instructed in the different tripod exercises. The instructor should be very careful to impress upon his mind how to bring the object aimed at and the line of sight in the same straight line, also the importance of always taking the same amount of front sight and having it aligned on the target at six o'clock with just a small line of white between the front sight and the object aimed at. After the recruit has become acquainted with the different sights and is able to properly and correctly align them upon an object he should then be given the position and aiming exercises (commonly called "push and pull"). This being one of the most important drills prescribed in the small arms firing regulations, therefore should be dwelt upon and a thorough course given to the recruit. He should be taught to know that unless the muscles are trained that they cannot be properly controlled and are unable to perform their proper functions without giving forth certain convulsive movements that are sure to deflect the piece from the target, and as it is the purpose of this drill to overcome this fault and to establish an intimate connection between the trigger finger and the mind it is necessary that several weeks' preceding the firing on the range should be devoted to this exercise. It should be constantly impressed upon his mind the importance, after drawing a moderately long breath, of being able to pull the trigger without disturbing the aim by any convulsive movement of the muscles, body, arm, or hand, and to never lose sight of the fact that the eye must be focused upon the target and not closed at the moment of discharging the piece, which in itself is a form of flinching—a very difficult habit to overcome.

After being thoroughly instructed in the position, aiming and trigger-pull exercises, the recruit should be taught by careful, systematic practice how to combine rapidity and accuracy in the rapid-fire exercise, never losing sight of the details of the position,

aiming and trigger-pull exercises, so that in actual practice the minor details which are all important will be carried out so that the correct position can at all times be quickly and easily taken, and that the purpose of the rapid-fire exercise is to so train the soldier in quickness as to enable him to get in several well directed shots upon a target in a prescribed number of seconds.

As a further means of teaching the recruit the correct positions, gallery practice is taken up with the same careful attention to details, so as to demonstrate to the recruit the advantage of holding fast at the moment of discharging his piece, and the utter impossibility of being able to hit the mark aimed at if any unnatural movements of the muscles, body, arm or hand, or any form of flinching which tends to divert the aim has taken place; also the importance of holding the aim during the discharge and a moment after, so as to be able to call the location of the hit. The recruit should be taught that the great advantage to be derived from gallery practice lies in the opportunity to become familiar with the trigger pull, as there is no recoil to induce nervousness or flinching. Every effort should be made to encourage gallery practice so that the recruit will learn to look forward to gallery and range practice not as a disagreeable duty, but, to the contrary, as a pleasure.

Another most important thing that should at no time be neglected during the course of instruction is the constant use of the gun sling in all the different positions. The recruit should be shown all the different ways in which the sling can be arranged, and the one selected by him which will give him the most steady and comfortable position; as the aid of the sling is such an important factor in learning to shoot, the recruit should be allowed at no time to practice holding the piece without using the same.

Following this the recruit should next be taught that the ability to correctly estimate distance is an essential characteristic of the good shot. This can be done by range-finding instruments, by sound, by the eye, and by trial or volley shots. It should be brought to bear upon his mind that in many cases upon the battle-field he will have to depend upon the eye to judge the distance; while it is true that in the controlled fire the distance will be given by the company officers, yet there will no doubt be many instances, such as when acting as scout, an outpost, skirmishing, when he will be compelled to rely entirely upon his own judgment in regard to certain distances. Therefore he should receive a thorough training in the different methods and means for esti-

mating the same; certain trees or posts near the barracks should be at different times pointed out and the recruit required to pace the distance. This will not only give him an idea as to the distance but will also give him the number of paces he takes to the one hundred yards. Teach him what changes are made in looking downward or upward at an object, when looking over depressions in the ground, over plane surface, water, snow, etc.; what effect a bright or dull light will have upon an object. In fact, explain all the different conditions to him, encourage him in this line of work and the instructor will find the recruit out with others in a short time, without being told, guessing the distances of different objects.

Now when the recruit arrives upon the range for instruction practice he should still be in the presence of and under the individual care of the instructor. The first shots will be of the greatest importance, for this is the time that the gentle recoil, of which we all are so familiar, will first be felt. Therefore he should be carefully watched to see that the butt of the piece is placed well against and in the hollow of the shoulder, that a tap upon the nose or chin, will not only cause an unpleasant sensation but will in all probability cause a large number of red flags to be brought into view. The instructor should at all times, while upon the range, make, or cause to be made, whatever corrections that are necessary upon the sights in regard to windage, elevations, etc., at the same time fully explaining the reasons for making such corrections. Not only explain, but at the same time show him; there is nothing like the eye as a helper in remembering things.

During all the time the recruit is undergoing the course of instruction the strictest discipline should be observed and maintained, for in the absence of discipline but little benefit can be derived from the whole course of instruction.

Now the instructor has taken the recruit through a thorough course of instruction, including: the care and preservation of his piece, the tripod exercises, position, aiming, trigger pull and rapid-fire exercises, gallery practice and estimating distances. And now we find him upon the range firing for record, making excellent scores. Let us hope that he will always continue to do so, and I further hope that some day he will go to Chicago and from there to the National shoot, and if any one should ask him where he came from, he can reply, "I'm from the School of Musketry."

NAPOLEON'S CONCENTRATION ON THE RHINE AND MAIN IN 1805.

From Original Documents in the Archives of the French War Office.

By FREDERIC LOUIS HUIDEKOPER.*

THE Treaty of Amiens (March 25, 1802) lasted less than sixteen months and the declaration of hostilities between France and Great Britain marked the opening of the wars which did not end until Waterloo—a conflict unique in history and unparalleled in modern times in respect to the numbers of soldiers engaged, to the production of more able men than have yet characterized any other one epoch, to the development of the most consummate general of all ages and to achievements unequalled both on land and sea.

After the outbreak of war in May, 1803, Bonaparte, the First Consul, hastened to occupy Hanover and, for the purpose of threatening England with invasion, assembled a formidable army in the immediate neighborhood of Boulogne, the wings of which were composed of detached corps in Holland under General Marmont and at Brest under General (subsequently Marshal) Augereau. This "Army of the Coasts of the Ocean" was drilled until, as a modern historian has aptly said,† "it became one of the most efficient fighting machines ever known in the history of the world, its discipline being perfect and its enthusiasm unbounded." On August 26, 1805, it received the name of "The Grand Army" and for the next ten years the history of terrestrial war is the his-

*I herewith send you another article entitled "Napoleon's Concentration on the Rhine and Main in 1805." This article was written from original documents in the archives of the French War Office and will form part of one of the chapters of "The Campaign of Austerlitz," on which I have been at work now nearly ten years. This, together with "The Surprise of the Tabor Bridge," which you published in the Journal of the M. S. I. for March and May, 1905, and the article on "Austerlitz—A Most Remarkable Forced March," published in July-September, 1906, ought to give one a fairly thorough understanding of this remarkable campaign. I can only trust that your Board may find the present article interesting enough to publish in the Journal of the M. S. I. Napoleon's preparations for war have always been considered marvelous, but in reality they were very far from being so and it seems to me that this fact only makes his subsequent and astonishing victories still more remarkable.—*Extract from letter to Editor.*

†Stephens, "Revolutionary Europe," p. 242.

tory of this superb force; the glory of its achievements will be imperishable so long as men are stirred by deeds of courage, self-sacrifice and devotion to a leader, but it is highly improbable that any other troops will ever be given the opportunity of winning undying fame to such a degree as were "the Emperor's soldiers." Napoleon himself considered "the Grand Army of Austerlitz" superior to any other he ever commanded,* and General Marmont, under whose orders the Second Corps fought during that campaign, in nowise exaggerated when he declared† that

> This army, the finest that had ever been seen, was even less redoubtable on account of the number of its soldiers than by reason of their nature. Almost everyone had made war and had won victories. Something of the enthusiasm and the exhaltation of the campaigns of the Revolution were still left, but this enthusiasm had been systematized. From the commander-in-chief, the heads of the army corps and the divisional commanders down to the common officers and soldiers—everyone was hardened to war. The eighteen months spent in splendid camps had produced a training, an *ensemble* which has never since existed to the same degree, and a confidence which knew no bounds. In all probability, this army was the best and the most redoubtable that modern times have seen.

On December 2, 1804, the First Consul crowned himself "Emperor of the French" and, during the next six months, devoted no small amount of energy to producing a rupture with Austria. By midsummer the threat of an invasion of England was maintained by Napoleon merely as a simulacrum to cover his real intentions, although it must be confessed that the French officers and soldiers were quite as convinced that the expedition would embark at any moment as were the English, who literally slept on their arms. With consummate skill, the French Emperor forced the House of Hapsburg into war, *nolens volens,* and on August 26th and the days immediately following, without even a declaration of hostilities and before Francis II was aware of what was happening, the orders were issued by Marshal Berthier, the "Major-General" (*i. e.,* Chief of Staff) and Minister of War, which set 185,000 French troops in prompt motion toward the Rhine and the Main.

The concentration of Napoleon's army in 1805 on these two rivers—which formed its rectangular base during the masterful maneuvers about Ulm and during the entire campaign of Austerlitz—has heretofore been considered a model of its kind; it has often been cited as worthy of being studied carefully and,

*Gourgaud, Journal inédit de Sainte-Hélène, II, p. 111.

†Mémoires du Maréchal Marmont, Duc de Raguse, II, pp. 302-303.

under similar circumstances, of being copied exactly because of the skill and precision with which it was effected. Why the true facts are not known is indeed inexplicable; for, in reality, this concentration was very far from what a model ought to be. It cannot, of course, be gainsaid that the skill with which the French divisions were directed to their destinations and the precision of their arrival were most remarkable; but, on the other hand, the preparations for the opening campaign had by no means reached that stage which is always desired—but, unfortunately, seldom attained. The fault must be attributed to the shortness of time between the departure of the Grand Army from Boulogne and the date set for its crossing of the Rhine rather than to any negligence on the part of the general officers who did all that could be expected of them. To be sure, the reconnaissances by Prince Murat and Generals Bertrand and Savary were thoroughly made, and their reports, in conjunction with the information furnished by the French diplomatists and agents, enabled Napoleon to form a correct estimate of the direction, scope and object of the Austrian movements. The march of the French corps to the Rhine and the Main was made with a celerity and order truly marvelous, considering their large numbers, and a very short rest was amply sufficient to enable them to recuperate completely, so that they were in superb condition physically for active campaigning.

On the other hand, many essential preparations were in a decidedly backward state. Although General Songis, the Chief of Artillery, had collected 169 boats, it was impossible for him to get ready so that the bridges over the Rhine opposite Spire, Pforz and Schelestadt would be constructed before the morning of September 25;* some of the prefects of departments had been unable to furnish the requisite number of wagons and horses for the artillery trains; many of the drivers who had been requistioned were sick in the hospitals, some had already deserted and a large number took "French leave" directly after the Rhine was crossed.† Thanks to Songis' untiring efforts nearly all the ammunition was ready at Strassburg,‡ but the conditions were by no means satisfactory at Würzburg, which was "to be considered

*General Songis to Marshal Berthier, Sept. 22d; Prince Murat to the Emperor, Sept. 22d.

†Songis to Berthier, Sept. 18th; Songis to Murat, Sept. 19th; Murat to Napoleon, Sept. 21st; Songis to Berthier, Sept. 22d and Sept. 29th, and Pion des Loches, "Mes Campagnes," p. 140.

‡Songis' report of Sept. 26th.

as a position from which the army is to supply itself."* As Otto, the French Minister to Bavaria, reported, the citadel was abundantly provided with guns and powder, and the manufacture of cartridges, begun on September 12th, was hastened as much as possible, 100 men being employed daily at this work; but the bullets existed in small quantities only and did not fit the calibers of the guns mounted in the citadel.† After the 25th, the number of workmen was increased to 150 and 110,000 cartridges turned out daily, but, notwithstanding the insistence of Captain Dessalles that the number should be doubled, the lack of hands made it impossible to comply, so that the amount actually furnished fell greatly below the 5,000,000 ordered by Napoleon.‡ On September 28th, Bavaria could furnish only 168 guns and thirty-eight howitzers—of which only thirty field pieces and six howitzers were actually with the Bavarian army—and the amount of serviceable ammunition was extremely meager,§ so that, as a matter of fact, it would be impossible for the Elector's forces to engage in any considerable campaign, nor could they furnish any artillery supplies to Marshal Bernadotte and General Marmont. Prior to his departure from Munich, Otto had been requested by General Songis to obtain 2000 artillery-horses, but the advance of the Austrians had reduced the available territory from which these horses could be drawn to the province of Würzburg; and this district had already been exhausted by the requisitions of the Bavarian army which had proved futile to procure the horses which it alone required. Otto was promised 500 horses to be delivered on October 5th, but was compelled to enter into an agreement with a Würzburg dealer named Hirsch to furnish 2000 horses, the last of which were not to be delivered until November 12th.‖ Indeed, the only details that were fully prepared for war were the bridges, equipages and the boats to be used for transports on the Main,¶ coupled with the fact that Würzburg, armed with forty-six guns and thoroughly provisioned, was properly defended and could serve as a good depôt for the Grand Army.

The lack of officers, particularly for the staff, was another deterrent factor in expediting the preparations, but, although it

*Berthier to Songis, Sept. 19th, 1 A. M.

†Otto to Berthier, Sept. 21st.

‡Dessalles to Songis, Sept. 26th and 30th.

§Dessalles' reports to Songis, Sept. 26th and 28th.

‖Otto's reports to Berthier, Sept. 21st and 25th; Songis to General Éblé, commanding artillery of the First Corps, Oct. 5th.

¶Dessalles to Songis, Sept. 30th.

was partly rectified by the Emperor's order of the 16th, many vacancies still existed and not a little trouble was incurred thereby. The day after reaching Strassburg, Prince Murat, commanding in the Emperor's absence, complained that he had no chief commissary, no chief of engineers and no chief of artillery for his corps, and he was twice compelled to reiterate his request that these important places should be filled at once.* There was, furthermore, a lack of gunners for the garrisons of the armed places along the Rhine,† and the very day before the Reserve Cavalry and Oudinot's grenadiers crossed the river, some of their artillery companies had not yet arrived nor had the general commanding the reserve parks put in his appearance.‡ As late as the 21st, Marshal Soult appealed to General Songis to know the organization and composition of the artillery assigned to him, and complained that he was "without one single staff-officer of artillery," nor did he know the name of his new chief of artillery and the director of his park.§ The conditions existing in the French corps before—and even after—it crossed the Rhine are admirably told by a captain of artillery:‖

> At Metz, on the 4th Complementary Day (September 21st), we learned that the Emperor had appointed our general, Macors, to the command of the fortified place of Lille and that he had replaced him in the army corps by General Lariboisière. Instead of proceeding to Strasburg, we are directed on Landau. I delivered General Macors' horse, on which I had made the entire trip, to Colonel Senarmont,¶ when a general of division commanding the artillery of an army corps of more than 25,000 has only one horse, an attached captain is allowed to go a-foot; I was none the less dismounted on the banks of the Rhine at the moment of entering the field. However, I found a small horse in the train, and a few days afterward I bought an excellent mount for sixty francs from a gunner who had stolen it.
>
> At Spire (6th Vendémiaire, September 28th), I joined General Lariboisière; he was without aide-de-camp, without chief of staff, without officers. The Lorraine, Alsatian and Comtois drivers and horses, requisitioned by His Majesty for the transports of the park, being no longer retained, returned home; for us it was a great loss which made itself felt throughout the campaign.
>
> At Heilbronn, on the 9th Vendémiaire (October 1st) Colonels Duchesnoy, director of the park, and Demarçay, chief of staff (of the corps artillery) arrived. * * *

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*Murat to Berthier, Sept. 10th, 14th and 15th.

†Songis to Bethier, Sept. 15th; Marshal Soult to Songis, Sept. 21st.

‡Songis to Murat, Sept. 24th.

§Soult to Songis, Sept. 21st.

‖Pion des Loches, pp. 139-140.

¶Subsequently Chief of Artillery of the Army of Spain—one of the greatest artillerymen of the Napoleonic era.

That these officers did not report for duty until several days after the Fourth Corps had crossed the Rhine is merely another demonstration of the lack of organization in the Grand Army at that time, and the failure of Marshal Berthier to ascertain what vacancies existed and to fill them in proper time to prevent such an unfortunate state of affairs. But, bad as the conditions in the Fourth Corps were, they were fully equalled by those in the Reserve Cavalry, for, the day it crossed the Rhine, Prince Murat found himself compelled to write to the Emperor:

> Sire, we are far from being organized; there is scarcely a single staff-officer with the army (corps); the generals' wagons are far behind them; no hospital wagons; the battalions of the train are still *en route;* our artillery is being hauled by requisitioned horses.*

The subsistence, too, was manifestly deficient in quantity for such an army, was indifferently administered and frequently of inferior quality. The Vanleberghe and Delannoy companies had bound themselves to furnish the provisions and forage for the army,† but, as has always been the case with army contractors, their management produced inferior service which gave rise to considerable dissatisfaction and many just complaints, and ended in bankrupting both companies. The transports supplied by the Breidt company did not reach Strassburg until September 29th and consequently did not overtake the army until long afterward; this company did obtain the requisite number of horses, but the government took upon itself to furnish the wagons and, although the Emperor had ordered a large number of them to be constructed at Sampigny,‡ and anxiously inquired when they would reach the Rhine,§ this work was so very backward that, as late as September 18th, the Intendant General reported only one-fourth of the necessary wagons were ready and that the remainder would not be finished for several months. Some wagons were manufactured at Strassburg on the model of those made at Sampigny,‖ but the number thus obtained was most insignificant, and, to cap the climax, the wagons belonging to the "Army of the Coasts" were directed to Sampigny and these stopped, instead of being permitted to proceed directly to Strasburg,¶ so that the

*Murat to Napoleon, undated, but unquestionably Sept. 25th.
†Berthier to the various Marshals, Aug. 27th.
‡Napoleon to Dejean, Aug. 28th.
§*E. g.*, Napoleon to Murat, Sept. 18th.
‖Murat to the Emperor, Sept. 21st.
¶Napoleon to Dejean, Sept. 26th. Napoleon Corresp. No. 9267.

supply service had to be done along the Rhine with the 1000 wagons requisitioned in conformity with the decree of September 2d.*

According to the orders issued on September 20th, the army was to be supplied with bread for four days and biscuit for the same length of time; the latter was to be kept intact for emergencies, while the bread was to be replaced as fast as it was used in order that the troops should always have provisions for eight days.† To make certain of the necessary amount of biscuit, Napoleon had ordered Marshal Bernadotte to obtain 100,000 rations at Göttingen before beginning his march‡ and the Elector of Bavaria had been requested to have 500,000 manufactured at Würzburg and 500,000 at Ulm,§ while Dejean was to have the same amount at Strassburg and 200,000 at Mayence ready on September 23d,‖ and on the 16th orders were sent to Otto to have 300,000 rations made at Würzburg.¶ In spite of the Emperor's careful provision most of the biscuit was not furnished when the army crossed the Rhine; the 200,000 rations at Mayence were supplied but not until the 29th, so that the Second Corps had to be quartered on the inhabitants and to make requisitions during its march to Würzburg, because no stores had been formed and because the agent sent to Würzburg had not made any purchases nor had he had either bread or biscuit baked,** while Otto reported that the native bakers hardly knew what biscuit was, that flour was much dearer than in France and the watch kept over them by the Austrian Minister necessitated such secrecy that it would be preferable to have the biscuit manufactured in France and transported to Würzburg by the Main.††

At Strassburg the situation was equally bad. Until the arrival of the Intendant General on the 18th, the commissary Chatelain had been so lax in organizing the means of subsistence and in having biscuit made as to provoke comment on the part of the Emperor.‡‡ Petiet was unremitting in his efforts to rectify the backward state of conditions; he promptly requisitioned workmen, had bread made in the bakeshops of individual tradesmen,

*Petiet to Berthier, Sept. 18th.
†Also Order of the Day, Sept. 26th.
‡Napoleon to Berthier, and Berthier to Bernadotte, Aug. 23d.
§Napoleon to the Elector of Bavaria, Aug. 25th. Napoleon Corresp. No. 9134.
‖Napoleon to Dejean, Aug. 23d and 28th. Napoleon Corresp. Nos. 9122 and 9150.
¶Napoleon to Berthier, Sept. 15th, and Berthier to Otto, Sept. 16th.
**Marmont to Berthier, Sept. 22d and 30th.
††Otto to Berthier, Sept. 21st.
‡‡Napoleon to Dejean, Sept. 10th. Napoleon Corresp. No. 9197.

made use of fourteen military ovens—although he was unable to utilize twelve others for lack of funds for repairs—had 200,000 rations brought from Lille and 100,000 from Soissons and Landrecies, and promised to have 1,200,000 rations of biscuit ready by September 29th.* The day after Murat and Lannes had crossed the Rhine and the very day of the Emperor's arrival—September 26th—the total number of rations of biscuit—weighing eighteen ounces each—which had been made was only 180,000, and not more than 15,000 were being delivered daily; Huningue and Landau had furnished 20,000 and 30,000 rations respectively, but neither place was turning out more than 5000 *per diem*, and, although ovens were being established at Weissenburg and Haguenau, they did not begin active operations until the 28th and 6000 rations a day was their limit. Of the 200,000 rations for which Petiet had sent to Lille, only 120,000 were expected to reach Strassburg on October 14th, so that, in reality, there exised on September 26th only 230,000 rations ready to be served out to the troops†—a deficit of 270,000 as compared with the 500,000 demanded by the Emperor. For lack of transports the Vanlerberghe company was unable to deliver the supplies collected at Metz and Nancy with the result that, as late as the 21st, its agent suggested that requisitions of wheat be resorted to as the only means of remedying the deficiency,‡ and on the following day Marshal Soult complained that unless additional measures were taken to supply the Fourth Corps, it would consume all its bread by the time the Fourth (Suchet's) Division arrived.§ The food supplies collected by the inhabitants in the hope of selling them at a profit were levied upon by the chief commissary at Strassburg to the despair of the inhabitants who saw themselves forced to accept the arbitrary prices set by the supply companies,‖ and the forage ran so short that, even on the 22d, Petiet was obliged to call upon the prefect of the Department of the Upper-Rhine to supply what was urgently needed by means of requisitions.¶

Early in September Napoleon was informed that the clothing of the army was "generally in good condition";** he had previously ordered that cloaks should be distributed to one-third of the

*Petiet to Berthier, Sept. 18th.
†Report of Delebecque, Sept. 26th.
‡Soult to Murat, Sept. 21st.
§Soult to Murat, Sept. 22d.
‖Savary's report, undated.
¶Murat to Napoleon, Sept. 22d.
**Dejean's report to Napoleon, Sept. 4th.

troops of the Grand Army,* but by September 12th he had come to the realization that this amount was quite insufficient and had ordered another one-third to be distributed;† one-third of the troops therefore wore great-coats which had been served out in 1804 and none had more than one which was fit for campaigning.

Great strategists have always been great maneuverers and the ability to maneuver depends upon the marching ability of an army which, in turn, is dependent upon the good condition of the soldiers' feet. Shoes consequently are an important factor in war, and no general has ever been more solicitous that his soldiers should be properly shod than was Napoleon, who insisted that his troops must always have three pairs of shoes. In addition to the two pairs which the soldiers had in the Armed Camps, a third pair was distributed to them prior to their departure, but, as the march to the Rhine was expected to wear out the pair on their feet, two pairs were to be manufactured in the Fifth Military Division, one of which was to be served out to them upon their arrival on the Rhine and the other held back until after the army had crossed that river. Each soldier would thus have four pairs of shoes; one on his feet, two in his knapsack and the fourth stored in the corps depôt.‡ The 14,537 pairs which had been kept in the magazines at Boulogne, Étaples and Ambleteuse were consequently shipped from Boulogne on September 3d by the Breidt company under the supervision of Captain Lejeune,§ but, although it was expected that they would reach Strassburg on the 28th at the latest,‖ Napoleon was compelled to issue orders to hasten their arrival¶ and, as a matter of fact, Lejeune did not overtake the army until the maneuvers about Ulm were nearly ended,** so that some of the divisions were in need of shoes when they crossed the Rhine.††

But the greatest of all the difficulties which had to be overcome was the lack of ready money. Notwithstanding all the Emperor's efforts, the army's finances could scarcely have been worse administered than they actually were, and it is indeed small wonder that they gave rise to innumerable complaints. Adequate funds to pay for shoes, cloaks, provisions, horses, fortifi-

*Order of the Day, Aug. 29th.
†Napoleon to Dejean, Sept. 12th. Corresp. inédite de l'Empereur.
‡Order of the Day, Aug. 29th.
§Lejeune's report to Berthier, Sept. 6th.
‖Murat to Napoleon, Sept. 21st.
¶Napoleon to Dejean, Sept. 26th.
**Lejeune, Mémoires, I, p. 28.
††Murat to Napoleon, Sept. 28th.

cations, wagons, military ovens, artillery and engineer supplies, etc., were not furnished at the proper time, so that the officers at the front were subjected to countless vexations and found themselves hampered with exasperating frequency in the colossal preparations which they were expected to make in such a short space of time. Upon arriving at Strassburg, Murat was obliged to pay the courier whom he sent to Paris out of his own pocket,* and five days later he reported that the quartermaster of the Fifth Military Division would be unable to obtain the necessary forage because he could not get possession of the funds upon which he sought to draw,† while Songis complained that the paymaster had exhausted all the cash in his chest and was reduced to paying in checks instead of money.‡ On the 18th the Intendant General declared that the lack of funds had prevented a dozen ovens from being utilized for baking biscuit,§ and as late as the 22d Murat pointed out that it would be impossible to obtain more forage from the Department of the Upper-Rhine unless the first supplies were paid for.‖

Then, too, the pay of the officers and men was in arrears. Even before Napoleon left Boulogne he found himself obliged to permit 600,000 francs belonging to him to be turned over to the army chest and, as this amount was quite insufficient, recourse had to be had to "the funds destined for extraordinary operations" in order to insure the pay up to September 2d.¶ Barbé-Marbois, the Minister of the Treasury, exceeded his instructions by allowing funds which should have been placed at the Emperor's disposal to be sent to the Paymaster-General of the Army and by diverting 4,000,000 francs from the sinking fund to the pay of the army—proceedings which drew upon him a vigorous censure from Napoleon, who complained that the preparations were thereby "paralyzed and retarded for fifteen days" because 4,200,000 francs were needed immediately for extraordinary expenses and for the purchase of artillery-horses, cavalry remounts, cloaks and shoes.** In default of other resources, the Emperor permitted the amount received from the sinking fund to be applied to the

*Murat to Berthier, Sept. 10th.

†Murat to the Emperor, Sept. 15th.

‡Songis to Berthier, Sept. 15th, 7 P. M.; also Napoleon to Berthier, Sept. 18th, about midnight; Napoleon Corresp. No. 9239.

§Petiet to Berthier, Sept. 18th.

‖Murat to the Emperor, Sept. 22d.

¶Napoleon to Barbé-Marbois, Aug. 28th and 30th. Napoleon Corresp. Nos. 9146 and 9162.

**Napoleon to Barbé-Marbois, Aug. 30th and 31st. *Ibid,* Nos. 9162 and 9168.

pay of the army, but insisted that he must have 4,000,000 francs for the supplies before September 7th, as well as the necessary money to pay the troops up to October 23d in order to prevent the pillage and devastation of neutral countries which would otherwise be inevitable.* The decrees of September 6th and 17th contributed 30,000,000 francs to war expenses, but it was impossible to distribute all this money as speedily as could have been desired, although it does appear that the army's pay up to October 23d was, conformably to the decree of the 6th,† expected to be discharged on September 27th, and Songis did actually receive 500,000 francs for the artillery and 288,100 for harness.‡ Nevertheless, the army's pay was still in arrears when it crossed the Rhine and for several days afterward,§ so that it is by no means surprising that Napoleon, who foresaw what actually happened, complained that if the Treasury continued to discount paper of the Bank of France in circulation, he could count upon nothing; and that if Roger, the chief clerk of the Treasury who had charge of the business relations with the contractors, and Desprez, the representative of the firms of Vanlerberghe and Ouvrard which had combined under the title of "United Merchants," meant to make all his measures fail they were "assuredly taking the right road." Indeed, he declared that the condition of the finances was worse than in 1800,‖ but, although a good deal of blame may rightly be laid at Barbé-Marbois' door, the true cause antedated 1805. Mollien, then Director-General of the sinking fund, says¶ that

> The Treasury was in a veritable state of exhaustion as a result of two years of ruinous preparations. This exhaustion was such that Napoleon was only able to make up what he called the treasury of his Grand Army out of several millions, the greater part accruing from his personal savings. The contractors of ministerial supplies, who claimed everything in advance and became more exacting because they were the more necessary, had threatened to suspend their deliveries. In order that the provisions, wagons and artillery necessary to an army of 100,000 men might follow it in its flight from the coasts of Picardy to the heart of Bavaria, it had been obligatory to come to the relief of the principal suppliers, and, in default of other means, we were reduced to give them 10,000,000 of national domains in payment. The Public Treasury had already pledged part of the revenues of 1806

*Napoleon to Barbé-Marbois, Sept. 2d and Aug. 31st. *Ibid,* Nos. 9175 and 9168.
†Murat to the Emperor, Sept. 21st.
‡Songis to Berthier, Sept. 22d.
§Order of the Day, Sept. 27th and 28th.
‖Napoleon to Barbé-Marbois, Aug. 30th.
¶Mémoires, p. 407.

by negotiating the obligations underwritten by the Receivers-General on the payments of that year. The Bank was assailed with demands for the payment of its notes, because it had been too liberal with its discounts in favor of the men who, under the title of suppliers, sold their delusive credit to the Treasury, as well in regard to the new houses which loaned on their signatures and flooded the place with collusory drafts. The embarrassment thus spread from the public wealth to private affairs, and all the symptoms of a grave approaching crisis was already manifested before Napoleon's departure for Germany.

The sequel is told by Miot de Melito:*

He had scarcely quitted the capital when considerable alarm was evinced at the Bank concerning the exchange of the notes which it had put in circulation. There was a deficiency of specie; the rate of exchange had to be lowered, and on the 3d Vendémiaire (September 25th), the day after the Emperor's departure, the Bank could only give cash to the amount of 300,000 francs, accepting only one note for 1000 francs from each creditor who presented himself. The discontent was grave. The Bank, or at least the principal shareholders, were accused of trading in the specie and of having exported a large quantity. Others laid the scarcity of money on the shoulders of the Government and on the loans made by it to the Bank. But the last accusation was quite unfounded; we of the Council of State were satisfied that such a proceeding had never even been contemplated, and that the evil must be attributed to the greed and the ill-judged speculations of the Governors of the Bank.

The difficulty of the public finances lasted nearly the whole time of the Emperor's absence. Several councils were held to devise means for lessening the attendant consequences, and various measures, more or less adapted to diminish the evil were decreed.

During the whole time that this crisis lasted, the Public Exchequer was in a very strained position, and its difficulties were yet further increased by an extraordinary bounty granted by M. Barbé-Marbois, then the Minister of the Treasury. In order to save the firm of Ouvrard and Vanlerbergh, who supplied the commissariat, from impending failure, he entrusted to them upon the whole of the bonds of the Receivers-General, then in the Treasury, a sum of 85,000,000, which the contractors deposited in the Bank. On this deposit the Bank increased its issue of notes, and that operation was partly the cause of the impossibility of paying them on sight.

In granting so great a favor to speculators, M. Barbé-Marbois was doubtless influenced by no blamable motive, but he was wrong, in the first place, to consent to it without authorization, and, in the second, not to have acquainted Prince Joseph (the President of the Senate) with what he had done, for the Prince was thus left without any knowledge of the cause of an evil for which he was obliged to seek a remedy.

While it is true Prince Joseph did not have any expressed authority over the Treasury and Barbé-Marbois was not, strictly speaking, compelled legally to render any account to him, as Meli-

*Miot de Melito, Memoirs, II, pp. 142-143.

to goes on to say,* "the singular part of this transaction is that it was for a considerable time concealed from the knowledge of the Emperor." The mismanagement did, however, continue to the very end of the campaign and, on Christmas day, Napoleon in transmitting to Joseph an unsealed letter which he was to read, then seal and forward to Barbé-Marbois, wrote that "the Coalition had no more useful ally than my Minister. * * * As a matter of fact, I believe the man has betrayed me."† This was the climax; but even in August the signs pointed so unmistakably to the mismanagement which reigned throughout the entire campaign that it would be impossible to stigmatize the administration of the Treasury during the whole time better than Napoleon himself did when, before leaving Boulogne, he declared that "as for the system of finances, it could not be worse."‡ Mollien says that the Emperor made no attempt to hide the fact, but that "in victory alone he saw and sought the remedy";§ in truth, it needed all the éclat and prestige of the unbroken chain of victories which marked this war to make amends for the defective systems of supply and finance, and for the unnecessary hardships which the officers and men were forced to endure and the privations to which they were subjected in consequence of the irregularity with which their supplies were served out and their pay discharged.

We are all prone to contrasting the shortcomings of our own day and generation with what we are pleased to call the perfection of by-gone days and centuries, and the glamor with which we invest the past is too often allowed to destroy the true perspective and to render us blind to things as they actually were. Unquestionably the most brilliant character in all history, Napoleon's achievements must forever be the marvel of men, and the petty defects are necessarily lost in the obscurity of the past and eclipsed in the halo of glory which surrounds the marvelous results he obtained. One of his future aides-de-camp pithily said that "these great armies, just like *colossi,* are only good to be seen at a distance from which many of the defective details are imperceptible"‖ and, perhaps, no greater tribute can be paid to Napoleon's genius than to realize the countless defects existing in many of his armies—defects so great that they would have proved in-

Ibid, pp. 143-144.

†Napoleon to Joseph, Schoenbrunn, Dec. 25th. Confidential Correspondence of Napoleon with Joseph Bonaparte, No. 105, Vol. I, p. 76.

‡Napoleon to Barbé-Marbois, Sept. 2d.

§Mémoires, p. 407.

‖De Ségur, Mémoires, I, p. 188.

surmountable obstacles for most commanders—and to understand that his victories were achieved in spite of them. In no case, save in 1796, was this more forcibly illustrated than in 1805, but, on the other hand, had this latter war been marked by defeats, and had it culminated in disaster instead of continuous victories ending with one of the most decisive battles in history, might not the cause be reasonably ascribed, in part at least, to the insufficient preparations at the opening of hostilities? We answer, "Decidedly yes!" and, since the question of subsistence, supply and army finances are always most important factors in military success, we must not permit the splendid strategical and tactical lessons which can be learned from the Campaign of Austerlitz to blind us to the fact that it must by no means be taken as a model in respect to the preparations made, because they were woefully deficient, and in the hands of the average commander-in-chief might readily have led to defeat and disaster.

WANTED—RELIEF FOR THE INFANTRY.

By Lieut.-Col. CHARLES J. CRANE, Adjutant General.

THE army needs relief in various ways and for various reasons. It is not proposed to attempt to fully set forth all our wants in this short article.

It is hoped and believed that an effort will be made to induce Congress to increase our pay, and it is believed that such increase will be obtained with least opposition if advocated in the form of an allowance for rations, and one for clothing and equipments, based on careful computation, giving company officers the same allowances; also other and identical allowances to field-officers, and similarly with general officers.

The allowance for rations could reasonably be put at two rations for company officers, three for field-officers and four for general officers, or the equivalent money thereof.

The allowance for clothing and equipments should, in like manner, be for company officers three times the annual clothing allowance of a non-commissioned staff-officer, that for field-officers four times as much, and that for general officers five times as great.

It is believed that a great majority of civilians and even Congressmen have always considered that similar allowances, also those for fuel and light, have been allowed us, or that we enjoyed them, and no great opposition would be raised to our actual enjoyment of the allowances so long believed by our law-makers to have been really possessed by us.*

We also need a reorganization which will give us an increase of officers sufficient to supply the details for the General Staff, the personal staffs of general officers, for instructors at our service schools and the Military Academy, for military attachés, for recruiting service, for detail with colleges, etc.

This reorganization should most especially provide for a mobile army of 100,000 men and for a chief of infantry.

This article will be devoted to showing our need for a

*Colonel Crane desires to state that "while still believing that an increase of pay for officers can easiest be obtained in the form of ration and clothing allowances, he sees how that interferes with any scheme for the equalization of pay, and advocates the latter proposition instead."

chief of infantry, in the hope and belief that the other wants of our army will be fully explained by others better supplied with the necessary data.

We know that it is practically impossible for those who have been doing our thinking to remember equally well all those for whom their thinking and planning and acting is done, but that does not make us any more willing to accept less thought and consideration than what we believe is our right.

We, therefore, feel sure that if we are represented by an infantryman at Washington, our welfare will be better looked after in the discussions of questions which mean so much to us, and, therefore, to the army and to our country.

We of the infantry ask for only those things which we firmly believe should rightfully belong to us.

For many years we have gone on, in a good-natured way, conscious of our strength and our merit, and imagining that the balance of mankind were equally cognizant of the fact and respected us accordingly.

All these years we have allowed others to select our arms, equipments and clothing. Not so very long ago even our drill regulations and infantry tactics were compiled for us by others. Only a few months ago we were, without our knowledge or consent, armed with a weapon which, years ago, we had tested and rejected, *i. e.,* the rod bayonet. It is better than no bayonet at all, and we can, therefore, appreciate its advantage to a cavalryman, who cannot encumber himself with a regular bayonet, but we do not understand what possible reasons could have prompted the adoption, at this time, of the rod bayonet for our infantry.

In similar manner other important changes have been made affecting and, so far as we know, without consulting us.

Why is it? Have we been "weighed in the balance and found wanting" in intelligence, industry and efficiency, that others so calmly assume the prerogative of thinking and doing for us?

We of the infantry do not believe that the records will support an affirmative answer to that question. If not, then we have not received all that should have been coming to us.

The great majority of the infantry of our army have come to the conclusion that we have slumbered on our rights, but that it is not yet too late to rectify the mistakes which we have allowed.

We have noticed that in the natural progress of military matters it has been found necessary to add to the department

chiefs already allowed by law, an additional one, *i. e.,* one for the artillery, and we were glad to see that step in the right direction, and would welcome separate chiefs for the two branches of artillery, also one for the cavalry.

The branches of artillery are so different in so many important particulars that some day there will be chiefs for both the field and coast artillery.

The cavalry, too, will have a chief.

But no part of the line of our army needs a chief so urgently as do we of the infantry.

From patient observation of the progress of events for the past ten or fifteen years, we have gradually been aroused to the knowledge that from lack of a representative—a chief of infantry at Washington—we have been ignored to an extent that has been very humiliating to us.

We, who practically furnish the dead for both sides on almost every battle-field, feel that we have not been properly and sufficiently recognized, and we believe that it has been due to the lack of a representative in Washington—a chief of infantry. In the absence of such an official to properly represent the largest and most important part of the army, we of the infantry feel that our proper status and importance has not been fully and correctly appreciated and recognized.

We need a chief of infantry at Washington to represent us whenever there arises any question affecting the administration of the Infantry and Cavalry School, the Staff College, the Army War College and the United States Military Academy.

Captain Helmick's article in the "Infantry Journal," published in April, 1905, sounded a note of alarm which has never been satisfactorily answered; and the fact that since the last infantry commandant at West Point there have been appointed two cavalrymen and one artilleryman; and since the last infantry superintendent there we have had two engineers and two cavalrymen—is sufficient to convince us that we have not been accorded the recognition which we believe is due us.

Captain Helmick, in the article mentioned regarding the selection of instructors at the Infantry and Cavalry School, said, "If equally efficient instructors cannot be found in the infantry there is no reason for complaint." To that may be added a similar reason regarding the selection of commandant and superintendent at our National Military Academy without detracting one little bit from all that is due the fine officers who have been

selected from other branches of the service for those important duties.

We ask for only those things which we are firmly convinced should, in justice, be accorded us, and we believe we have good reason for complaint.

As the one solution for all this, I believe that I represent the far greater part of the infantry when I say that we need and ask for a chief of infantry and will continue to work for a "Chief" till we are given one. It is believed that we will in this instance be more united than we have been in any previous undertaking, and we hope and believe that we will have our "Chief" before the lapse of many months.

No other arm can have any interest in opposing us, and it is more than likely that our example will soon be followed by the cavalry and by the two branches of the artillery.

But in order to obtain that which we claim is only justice to the army, we of the infantry must pull together and pull hard.

To all I have said so far, I believe that very few infantrymen will differ in opinion. But as regards the proposed grade of the "Chief," how he shall be appointed, what shall be his tenure of office, etc., there will naturally arise differences of opinion, which must be settled soon, and we should all loyally support the scheme finally adopted and presented to Congress through the proper military channels. What should that scheme call for? My suggestions are as follows:

We should ask for a chief of infantry who shall have the rank, grade and emoluments of brigadier-general; who shall be appointed by the President from the colonels and lieutenant-colonels of infantry; who shall be appointed only once and for a term of six years; who shall, after such service, be either retired with such grade or without exception be returned to the grade which he would have if remaining continuously in the line; who shall be *ex-officio* an additional member of the General Staff and of the Army War College and shall live in Washington.

It is not believed that the chief of infantry should be subject to reappointment. It is thought that his best energies will be given in the six years allotted him as "Chief" and that comparatively small benefit would result from a longer term of office. If absolutely barred out by the law from a second tour he would undoubtedly be more likely to give to his work the best that

he is capable of, with no division of interests to distract him from his proper duties.

We cannot obtain our chief of infantry with merely the expression of a wish, even if we all wish together the same wish and with all our heart. Much more will be necessary, much work from many of us.

We of the infantry are sure of what we need and should have, but we must convince many others of the justice of our demands. If each of us does his little best it is believed that we will be granted a "Chief" and that we will never regret the creation of the office.

If we need a chief now, how much more will we need him when our numbers are increased, as they are sure to be in the near future. It is evident from the signs of the times that our mobile army must soon be increased to a peace strength of 100,000 men, and that cannot be without a considerable increase of our numbers in the infantry. We have been glad to see our artillery more than trebled during the last ten years, but the belief is abroad that in the next increase of the army the infantry is not going to be neglected or partially ignored. Our increase should be along the lines laid down by our field-service regulations.

In the reorganization which must bring us up to a mobile army of 100,000 men, we should make some provision for our officers of the Porto Rico Regiment and for those with the Philippine Scouts. They should, in such increase, be commissioned in the Regular Army in their present grades, and be subject to the same examinations for promotions as are the rest of us, those failing in such examinations to remain where they are at date of examinations.

The status of these officers—at least, those of the Porto Rico Regiment—has presented a glaring inconsistency and lack of justice to them. If one of them should be crippled in battle there is no place on our retired list for him. Nothing less than an act of Congress will help him to a pension or retired pay, no matter what may be the nature or degree of his disability incurred in the line of duty—as in battle. It is believed that the same is true of the officers with our Philippine Scouts, excepting, of course, those detailed for such service from the Regular Army.

The question of an increase in our numbers will be fully discussed by others better prepared on the subject.

To offer any resistance to any respectable power, our first line must be at least 200,000 strong to begin with. We cannot depend at the outset on more than 100,000 organized militia, and will have to wait many weeks and even months before any assistance can reach us.

The idea, so undeservedly popular with the masses, that to make a soldier, especially an infantryman, it is only necessary to place a rifle in his hands, will bring terrible disaster on us in our first struggle with any great power. An infantry soldier is not created in a week, nor in a month, nor in a year, except under most favorable circumstances.

That instruction and especially the discipline of our army that is most essential to success in any campaign likely to be thrust upon us, will demand months and months and months of hard work, such that no officer, without experience, is qualified to be of much assistance.

A large part of the discipline of an army is founded upon confidence in the superior officers. This confidence is the growth of time, of long experience in command of men, of actual knowledge of the hardships placed upon the soldier, so that the rank and file feel that their leader is with them. It is the very essence of that soldierly spirit which obeys without question and cannot be acquired by selection or favoritism.

Enthusiasm and youthful vigor are necessary in their places, but they are as chaff before the wind in creating that feeling of reliance which comes from experience and judgment. Examples are without number, the most recent having been supplied from Manchuria.

Our chief of staff has recently called attention to the great importance of well-trained infantry in time of war, saying, "Japanese success was largely due to the *careful peace training of their infantry* and to the fact that they were able to put over 300,000 officers and men in the field, all of whom had had *three* years' careful and systematic training."

To enable us to escape sure disaster, which may possibly be of lasting effect, our Regular Army must be increased, and with the increase in numbers comes the growing necessity for a special chief to devote his entire energies to that arm for which the balance are, no matter how important, only accessories.

Therefore, gentlemen of the infantry, let us be up and doing for our own arm, therefore, for the army and for our country.

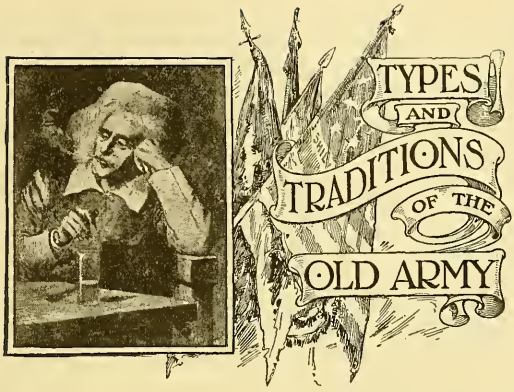
After painting by E. L. Henry, presented to Gen. S. W. Crawford, who deposited it in the Museum of the Military Service Institution.

GEN. GRANT'S HEADQUARTERS AT CITY POINT, VA., DEC. 1864.

Rawlins Comstock Dunn Gen. Grant Morgan Hudson Parker
Janes Babcock

GEN. GRANT AND STAFF.

City Point, Va., 1864.



FROM CITY POINT TO APPOMATTOX WITH GENERAL GRANT.

By Brigadier-General M. R. MORGAN, United States Army, formerly Commissary General.

WE naturally look up to persons whose character for worth in their profession, or special calling, we respect, and it gratifies our pride as well as our sense of justice to make such characters known and to have our names connected more or less intimately with theirs.

Two of the most eminent Americans who were prominent in the great Civil War, which lasted from 1861 into 1865, were Abraham Lincoln, President of the United States, and Ulysses S. Grant, General-in-Chief of the Armies of the United States. I had the good fortune to meet them both while in the performance of my military duties in that Civil War. My remarks herein on General Grant are based on my knowledge of him, gained by his side in the field, in 1864–65, when he was forty-two to forty-three years old.

President Lincoln for three years had sought a fitting commander for the Union Armies.

General Grant was a graduate of the United States Military Academy at West Point, N. Y. He had been a captain of infantry, had resigned his commission in the army, gone into civil life where he was not a success, and on the breaking out of the Civil War offered his services to the Union cause. His services were accepted by the State of Illinois, which commissioned him a colonel of one of her volunteer regiments.

General Grant was so successful in war that the general government made him a Brigadier-General of Volunteers and later a Major-General of Volunteers, and because of the capture of Vicksburg,

July 4th, 1863, by his troops, he was made a Major-General in the Regular Army. Because of Grant's success at Vicksburg, as well as because of his other military successes before and after July 4, 1863, President Lincoln believed he had found the General he had been seeking to put in command of the Armies of the Union.

In February, 1864, Congress revived a law establishing the grade of Lieutenant-General in the army, and on March 1st, following, Grant was nominated, and the next day was confirmed to fill the place, and March 9th he was made General-in-Chief of the Armies of the United States.

When in March, 1864, Lieutenant-General Grant assumed command of the armies, he told no one of his plans; not the President, the Secretary of War, nor Major-General Halleck; there was no one to suggest to him better plans than his own. He decided that the best place from which he could direct and supervise the movements of his great subordinates was away from Washington, in the field, in Virginia, and near the headquarters of the Army of the Potomac, and this position he took up March 26th at Culpepper Court House. May 4th was the day fixed by him for the simultaneous movement of all the armies in active campaign.

General Lee with the Army of Northern Virginia was the life of Richmond. General Lee exhausted, Richmond would fall. Grant's object in Virginia was to exhaust Lee.

May 5th the fighting began and continued until June 14th, when Grant with the Army of the Potomac commenced the crossing to the south side of the James, at a point ten miles below City Point, where the river was very wide and deep, but out of Lee's sight, by means of pontoons sent in advance to City Point and by transports that had carried "Baldy" Smith's corps from White House to City Point. Here General Butler was in position with an army, 30,000 strong, composed of the Tenth and Eighteenth Army Corps (the Army of the James). Butler's Army was across the Appomattox, and between that river and the James, Meade with the Army of the Potomac having pushed on after crossing until he was stopped by the Army of Northern Virginia under Gen. R. E. Lee in front of Petersburg. Grant had crossed the James at Wilcox's Landing. It was at this crossing, on the north side, that I met General Sheridan after a separation of eleven years—since Sheridan had left West Point. We had been together at the Military Academy for three years, from the time I entered until he was graduated.

Grant with his headquarters encamped at City Point.

I first saw General Grant in June, 1864, as his troops had arrived at the James and were preparing to cross that river to the south side.

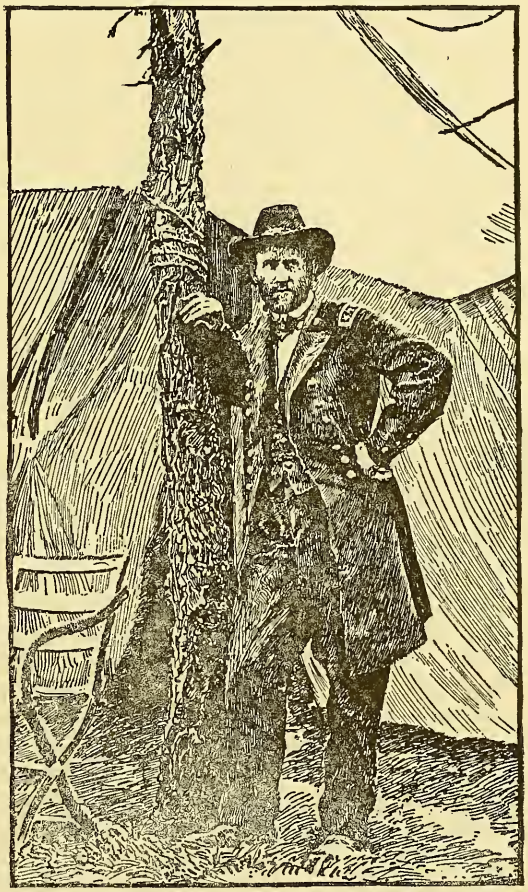
We were at General Butler's headquarters near Bermuda Hundred, where I was Chief Commissary of Butler's Army. He was alone, as I was; we looked at each other without speaking; I didn't notice his

shoulder straps and so did not know who he was. After looking at me a few moments, he entered General Butler's tent, and I mounted my horse and rode to the headquarters of the Tenth Corps. A day or two later I received a copy of Special Orders No. 35, Headquarters, Armies of the United States, June 16, 1864, announcing me as Chief Commissary of Subsistence of the Armies operating against Richmond, on the staff of Lieut.-Gen. U. S. Grant. I at once reported for duty to the general at his headquarters at City Point, Virginia.

From this time on I served pleasantly and satisfactorily with General Grant in the field, to the Surrender of R. E. Lee and his forces at Appomattox Court House, April 9, 1865, and on until in August of that year when, at the very earnest solicitation of the Commissary-General of Subsistence of the Army, I applied to be relieved from further duty with the Lieut.-General, and ordered for duty to Fort Leavenworth, Kansas. While this order broke up my intimate, official and social relations with General Grant, there was nothing that ever happened to interfere with the respect and admiration I always continued to have for our great Commander.

General Grant's mess being too large for comfort, I established my own mess and felt at home at once. Starting out March 29th, on the campaign of 1865, I, on the invitation of the General, joined his mess and so remained until the close.

General Grant was a man about five feet seven inches in



GEN. GRANT.

height, well proportioned; a good face, full brown beard and hair neatly trimmed, and with a decided stoop to his shoulders; of gentle manners and not over careful in dress, his uniform coat or blouse being always open. He was a plain but refined man; he would smile, but rarely laughed. I never heard him use a profane word or one to which any one might not listen. He had no small talk, unless it was in reply to something that one of the staff said as we sat around and chatted every evening into the night, or occasionally of old times, of old acquaintances, of old friends, and, as a rule, old acquaintances were all friends.

The General sat up late; he could not get to sleep at an early hour. I liked to sit up, too, and we often would be the only ones at the camp-fire at a late hour. He suffered greatly from billious headache, such attacks lasting two or three days and sometimes interfering with the due performance of his duties. He loved to speak of old times, and then little things were amusing; he would laugh and evidently enjoy himself. I had served on the Pacific Coast where he had been and was familiar with some of the old scenes and characters that interested him, and although I was many years his junior, he used to say that I looked as old as he did, and we had some subjects for conversation in common.

General Grant was prompt and energetic in action, but patient with the seeming lack of those qualities in generals under him. While a general may be a good corps commander, he cannot always get his divisions to arrive at a given point in a given time. While, as a rule, Grant was patient with his lieutenants, it seemed to me at the time that he did not evince his usual patience with Gen. George H. Thomas in December, 1864. Thomas was deliberate; his fastest gait was a "slow trot." (Sherman in his memoirs mentions that General Thomas once got his horse into a gallop.) But "Pap" Thomas was brave and true and his troops had the greatest confidence in him. Thomas had been one of my instructors at West Point, and I shared in the feeling his men had for him.

After the Battle of Franklin, between the forces of Hood and Schofield, had been fought, the latter, under orders from Thomas, who was intrenched at Nashville, continued his retreat to join Thomas. Grant was afraid that Hood would go north into Kentucky, causing as much trouble there as Sherman was causing in the South, and urged Thomas to attack and lame the rebel commander, if not destroy him. The roads were very bad, the ground being covered with ice, and Thomas did not move. Grant grew impatient, and sent repeated dispatches urging Thomas to attack Hood, who was now intrenching himself to invest Nashville. Grant telegraphed Thomas he would remove him if he did not act promptly. The latter replied that he could not help it; he would move as soon as he could. General Logan happened to be at City Point at this time, and Grant, losing

all patience, designated him to supersede Thomas in case the latter had not moved when Logan reached Nashville. General Logan started, but Grant was not satisfied; he could not rest, and set out himself to visit Thomas, taking me with him. When we reached Washington, Grant received a dispatch from Thomas, stating he was ready to move; General Grant decided to go no farther, but to wait there the result. Thomas did move December 15th, and Logan went no farther than Louisville. "All is well that ends well." It was "Pap" Thomas' fight, and his troops went in with a will, and on the 15th and 16th of December they fought Hood's forces and defeated them. Grant was glad not only at the result, but that the "distinguished" General Thomas had not been humiliated.

I met General Thomas in Washington just at the close of the war. We were in the office of the Surgeon-General of the Army; I was in one room talking with the Assistant Surgeon-General, Crane, and Thomas in the next room with the Surgeon-General, Barnes—they had both been stationed at West Point when I was a cadet—when I heard the general say, "Excuse me, Barnes, I think I hear one of my 'plebs' talking out there." He came in and we shook hands; we had not met since I was a boy. He said to me, "I expect you are very mad with me, I used to 'skin' you so at West Point." I could not at the time recall his ever being other than kind to me; but afterwards I remembered an occasion on which he had given me a severe report, which I deserved, and deserving it I forgot all about it.

General Grant was shy and reserved; he spoke so little that it was difficult to get to know him. He was one of those quiet men whom to know you must live, eat and drink with. While he seemed to have no humor himself he enjoyed humor in others. I remember hearing him tell of an incident when a few of Sherman's men were out trying to add to the commissary's supplies, and vary their every-day monotonous diet; coming to a house occupied by a lady where they discovered some chickens under the house—this was better than hearing them crow up in the attic where they were sometimes hidden from the "Yanks."—the fate of the chickens in either case would be just the same. The soldiers proceeded at once to appropriate the chickens. Sherman was so far from his base of supplies that every little addition of fresh food counted. The lady of the house made piteous appeals to have the chickens spared. The soldiers seemed moved by her appeal, but looking at the chickens again they were tempted, and one of them replied, "The Rebellion must be put down if it takes the last chicken in the Confederacy."

He once asked me how I estimated Sheridan and Schofield; he had never met Schofield at that time. The two were classmates at West Point. I replied, "Schofield can plan for Sheridan and Sheridan can execute whatever Schofield plans." After this, in September, 1864, General Grant took me with him to visit Sheridan at Charlestown,

West Virginia, taking with him plans of campaign; but finding Sheridan had plans of his own that were satisfactory, he told him to "Go in." Sheridan went in and whipped General Early at the crossing of the Opequon. General Grant after this, meeting me, said, "Well, Colonel, I think Sheridan can plan for himself." General Sheridan was to Grant at this time a great comfort and pleasure.

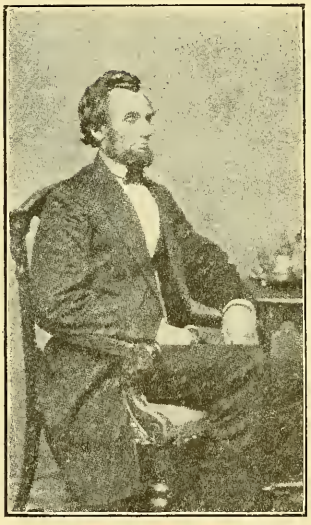
Before proceeding further in giving my impressions of my general, I will describe his camp, our place of abode for more than nine months.

This camp was on a plateau at the junction of the Appomattox with the James River, on a bluff sixty or seventy-five feet above the meeting of those waters, and one of the most beautiful spots, unadorned, except by nature, I have ever seen, and at the same time admirably suited for a small camp.

There was the old Southern home, with its outbuildings, surrounded by a lawn that was a veritable flower garden. I do not remember to have seen a place where roses and honey-suckles grew more beautifully without a gardener's care. On the highest point near the Appomattox, with its back to the river, stood the mansion; from this the ground sloped toward the James River and the Point. To the front and right of the house, which was used for offices by the chief quartermaster and chief commissary, where the sloping land had reached a level, were pitched the tents of the headquarters, forming three sides of a rectangle, the fourth side being open and formed by the bank at the junction of the Appomattox River and the James River. I may here mention that the walls of the house had been many times pierced by shot and shell from our gun-boats as they passed up and down the James, and the Southern flowers peeped in through those holes upon the Northerners at work, with not a sign of reproach for having been disturbed in their peaceful beds. General Grant's tent was in the middle of the longest side with that of General Rawlin's, chief of staff, on his left. In front of General Grant's large tent was a hospital tent-fly, forming the back of the rectangle, and facing the meeting of the waters. The view from the camp, as well as from the house, was broad and picturesque. In front was the junction of the two streams; beyond was the James River extending up beyond Bermuda Hundred past Hewlet's House Batteries, which commanded the long and narrow bend across which the famous Dutch Gap Canal was cut, and on past and under Chapin's and Drewry's Bluffs toward Richmond, the plum which President Lincoln told Grant he wished him to pluck. To the right of Grant, the view extended to Harrison's Landing and Malvern Hill; to the left, across the Appomattox toward Petersburg, the view was obstructed by high wooded bluffs.

The Dutch Gap Canal being mentioned, I'm reminded of a story in that connection. I believe the idea of cutting the canal originated

with Gen. B. F. Butler. He cut the canal by the labor of our own army prisoners. We had many bounty jumpers in 1864–65. There were two captains in the Army of the James; I was acquainted with the parents of one of them. Those captains belonged to a New York regiment. The report was, and I believe it to be correct, they had just come off picket duty when they were ordered to appear at once on parade, where they were required to be in apple-pie order. On parade they were reported to be not properly (neatly) dressed, and for this cause were dismissed from the service. The first paragraph of the order directed their dismissal, while the second paragraph of the same order directed that these two men, being civilians within the lines of the army without authority, should work at hard labor in the Dutch Gap Canal. This coming to the notice of the Lieutenant-General, the prisoners were at once discharged.



PRESIDENT LINCOLN.

It was at City Point in that summer of 1864 that I had the pleasure of first meeting our great President, Abraham Lincoln, who, with Mrs. Lincoln and their two sons, lived on the President's handsome, well-appointed steamboat, the *River Queen*, moored in the James River just under the bluff on which City Point is situated. That was a long time ago, about forty-two or forty-three years. It is not saying too much to say I was young at that time and I looked upon our President and Commander-in-Chief as old—fifty-five years! It does not look to me so old now to be fifty-five years of age.

Mr. Lincoln was very tall and thin, with a full beard, less a mustache; a sad and thoughtful face which would light up pleasantly and instantaneously when the matter under discussion seemed to call for it. He measured six feet four inches, and when on horseback with a horse in proportion to his size, and with his tall silk hat and long-tailed coat, and in company with officers in uniform, reviewing an army corps of twenty to twenty-five thousand men, he looked a not very graceful figure. Mrs. Lincoln when with the President accompanied him to the reviews, but rode in an army ambulance or spring wagon.

In that summer of 1864 Mr. Lincoln had not much reason to be cheerful; he desired to be his own successor as President, but the outlook was not encouraging. The people of the North had lost much of their enthusiasm for the prosecution of the war; they were becom-

ing discouraged because of the lack of military successes; volunteering for the army had almost ceased, large bounties were offered for enlistment; one thousand dollars per man being paid; gold commanded a high premium—in July, one hundred dollars in gold bought two hundred and eighty-five dollars in "greenbacks"—the people might desire a radical change of administration. It was well that the election did not take place until November, when things looked more favorable for the success of the party of which Mr. Lincoln was the Presidential nominee.

On the day of election General Grant and staff sat up late around the camp-fire waiting for the election returns. We had a telegraph operator in camp who received the messages—his name cuts no figure, but I give it, it was Beckwith. As we sat around smoking our pipes or cigars, reports were handed to General Grant, who read them out to us. Some of us were ardent admirers of the Democratic candidate. Indeed, most soldiers who were acquainted with General McClellan liked him personally, There were, however, a few who for personal reasons disliked him very much. The reports read by General Grant indicated that the country had voted overwhelmingly for McClellan. It must have been midnight before the last returns were read out. Of course we heard nothing from the States in rebellion. Those of the staff who had been outspoken in their opposition to McClellan, now that he seemed to be victorious, were very quiet; indeed, they were silent, and some of them had retired to their tents before we all left the camp-fire, and sought repose in sleep. Then General Grant told us that it was all a "hoax," that Lincoln was elected for a second term. One old officer who was very deaf and very unfriendly to General McClellan went to sleep believing that Lincoln was defeated and that the man he disliked was "on top." In the morning at the general mess-table, deaf as he was usually, he thought he heard his companions talking of the majorities in the several States by which Lincoln was elected, and cried out in astonishment, and with a big sigh of relief, "Oh, I thought McClellan was elected." We young men—we were all young—Grant was not yet forty-three, rather enjoyed the old man's perturbation.

General Grant did not often joke, but he did occasionally. After the surrender of the Army of Northern Virginia under General Lee, Grant with his staff started for City Point, and after riding two days, the 10th and 11th of April, we reached Burkeville Junction and a railroad, such as it was at that time, and, leaving our horses and escort, took the train for City Point. At Burkeville a Southern woman asked for a passage on our train, of one passenger coach, to City Point, where there was a small hotel. The permission to go with us was given her, and when about four o'clock in the morning of the 12th, I, feeling friendly to all creation, especially to the Southern people because Lee's army had surrendered, offered to escort the

woman to the hotel. In the meanwhile, Mrs. Grant was on General Grant's boat at City Point, and had invited the wives of her husband's staff-officers to visit her and greet their husbands, thus giving them an agreeable surprise as they returned from the war. My wife was among the number of those who received and accepted the invitation. The ladies were all up and ready to receive their husbands. I was not there! Mrs. Morgan looked for me in vain among the returning officers. General Grant saw her anxiety and disappointment and exclaimed, "O Mrs. Morgan, Colonel Morgan has gone off with a Secesh woman!" I soon made my appearance and all was well. These were two of the very few occasions on which to my knowledge General Grant indulged in facetiæ.

Mrs. Lincoln was something of a prophetess. We are told that in 1860, Mr. Lincoln hurried to his home to inform "that little woman" of his nomination for the Presidency of the United States by the Republican party. All who were present learned that the little woman had for more than twenty years felt that he deserved to be President, and of course would be President. "No man is a hero to his valet," but he is often a hero to his devoted wife. After Mr. Lincoln was renominated in 1864, Mrs. Grant and Mrs. Rawlins were visiting their husbands at City Point. These two ladies were calling on Mrs. Lincoln on the President's boat, when this lady prophesied that General Grant would be the next President elected and General Rawlins would be his Secretary of War. It so turned out, although poor Rawlins did not long enjoy the office, as he died in September, 1869.

But I must go back to Abraham Lincoln. I, a young man, a young officer, one of General Grant's heads of department, in the summer of 1864 met the President of the United States, the Commander-in-Chief of the armies and navy of the nation. There was no dressing up, for we had no fine clothes, the war having been going on for more than three years our clothes had ceased to be fine; there was no presenting, no pretty speeches. It was like being asked to a home dinner, "Partake of what we have." There was no saluting that would give notice to the enemy, and it was desirable to keep them in as much ignorance as possible. We minded our own business and we had our hands full. Mr. Lincoln would come up those high stairs from the river bank to our camp that summer time while with us; he would stroll up quietly and with his usual melancholy look return our salutations, sit down on a camp-chair and talk quietly, serenely, with any of the few (General Grant had only a small staff), who might be disengaged, and sitting under the tent-fly in front of the General's tent—this was our place of assembly.

Fortunately for the President and his family, he was not at City Point on August 9, 1864, when there was an explosion on an

ordnance barge carrying lumber, grape-shot, canister, etc., over our camp.

I happened to be in my tent at the time, and had with me a visitor, a great, large cavalry officer. We saw the shells in the air exploding, the fragments falling about the camp and some falling on and near my tent. I could see our people in the excitement trying to protect themselves, getting into the tents, and in one or more cases, getting under an office table. I saw General Grant at his usual gait, walking up from his tent toward the adjutant-general's tent, taking things coolly, and seemingly not thinking anything out of the ordinary was taking place. My robust cavalry visitor was very nervous, very much like some raw recruit; he first got under my tent-fly. We had been standing talking in front of the tent, and when a piece of shell struck the tent-fly, he went into the tent; then a shell coming down on the tent, he placed himself behind the front tent-pole, and again having had time to think he got behind a large tree in front of my tent. He was not hurt nor was any of us touched by the shells. I supposed a torpedo had caused the trouble. This explosion killed twelve enlisted men, three civilians and twenty-eight colored laborers; wounded three commissioned officers, four enlisted men, fifteen citizen employees and eighty-six colored laborers. Besides these there were eighteen others wounded who did not belong about the wharves. The bodies of the killed were many of them torn to pieces and thrown up from the wharves to the bluff on which our guard was encamped.

I reported at once to the general, who told me to go down and see what was the cause of the disturbance, and report to him. I hurried down, and just as I reached the scene of the explosion, some men there ran, crying, "There goes another." I stopped at the edge of the wharf, seeing no use in being killed by accident, or as Mr. Lincoln once said, "I thought it wise to run no risk where no risk was necessary;" but, in a minute, seeing it was a false alarm, I indignantly called out: "It is nothing: what are you afraid of?" I might have said, "What are *we* afraid of?"

One of the important incidents that occurred while Mr. Lincoln was navigating the Potomac and James Rivers, going between Washington and City Point in his steamboat, the *River Queen*, was a raid made by the Confederates while General Grant was absent from his head quarters, on a visit he made to General Sheridan in the Valley of the Shenandoah. He took his chief commissary with him.

While at Harper's Ferry, coming back, General Grant heard of the raid. Maj.-Gen. Wade Hampton, of the Confederate Army, with 8000 cavalry had slipped in around to the left and to the rear of the Army of the Potomac, moving in near City Point, guided by a faithful contraband, and brushing aside the cattle guard of one regiment of District of Columbia cavalry and a company of regulars, carried off

our entire reserve herd of 2500 head of beef cattle, and got back safely to Lee's Army without the loss of a man or of a hoof. This caused General Grant an unhappy quarter of an hour. It was one of the three times when I saw from his face that he was troubled, that things had not gone to his satisfaction. He got over it. He had hardly left Sheridan before that officer at Winchester had whipped the Confederates and captured more head of cattle than Wade Hampton had carried off from Light House Inlet, near City Point. For days after the capture of our herd, so important to Lee's army, the "Johnnies" would be heard yelling and imitating the bellowing of cattle and calling out, "Hello! Yank, don't you want some beef?"

General Grant used to say facetiously in this connection, "I have the best commissary of any of these armies; he not only feeds my troops, but feeds the enemy as well." The chief commissary was not good at taking a joke, and General Grant soon saw it and dropped the subject.

GEN. INGALLS.

The Secretary of War, Stanton, was greatly irritated by the loss of that herd. He telegraphed the general asking, "Who is responsible for the loss of those cattle?" Grant answered, "I am, U. S. Grant." That settled it; the "old man" was not afraid of Secretary Stanton.

Having paid my respects to President Lincoln and to General Grant, it is with pleasure I now mention that on reporting for duty at City Point I found there several acquaintances and friends, and among them one of ante-bellum days, Brig.-Gen. Rufus Ingalls, Grant's chief quartermaster, in company with whom I had served in Washington Territory before "The War." Ingalls was a great quartermaster, the broadest and most liberal I have ever known. He was willing to do by others as he did for himself. Under him his department worked smoothly. He was serene at all times. In the heat of the months of July and August in Virginia, he sat in his office ready to respond to all calls; he would fall asleep and a small boy would fan his bald and well-stored head, keeping the flies from worrying him. General Grant and he were classmates and warm friends. Grant always called him "Rufus."

There were also present two fellow campaigners in the Department of the South, at the beginning of the War, on Hilton Head and

contiguous islands, in South Carolina and Georgia under Brig.-Gen. Thomas W. Sherman, viz., Lieut.-Cols. Horace Porter and Adam Badeau. Porter, our late Ambassador to France, was, when I first knew him, a Lieutenant of Ordnance on the expedition to capture Port Royal Harbor, in the fall of 1861, under Flag-Officer Dupont and Brigadier-General Sherman. Porter remained with us after Major-General Hunter succeeded Sherman in command, in March, 1862, and was with us on some of the expeditions undertaken to capture the city of Charleston; but Badeau departed with Sherman, who had him appointed a Captain and Aide-de-Camp. He is the author of a book entitled, "Grant In Peace," a personal memoir.

I first met him on the steamship *Atlantic*, where he was accompanying the Port Royal expedition as a newspaper correspondent. General Sherman was the old Captain of Sherman's Battery, Light Company "E," 3rd Artillery, with which he distinguished himself and the battery, at the Battle of Buena Vista in the Mexican War, and I was one of his lieutenants at Fort Snelling, Minnesota, in the ante-Civil War days.

Well, at Hilton Head, General Sherman fretted under the strictures of the press—the "On to Richmond" newspapers, because he did not, they charged, accomplish as much as he should. He believed he had done and was doing all that was possible with the means at hand, and he asked me, his old lieutenant and friend, how to reply to the papers. I advised him to employ Badeau to fight for him. General Sherman thereupon appointed Mr. Adam Badeau an acting Lieutenant. Badeau at once procured for himself a soldier's coat, and putting shoulder straps on it, he made his début as a literary son of Mars.

After this Brigadier-General Sherman appointed Capt. Q. A. Gillmore, U. S. Engineering Corps, an acting Brigadier-General. This action of Sherman was objected to by a Captain of Regular Artillery, senior to Gillmore as a Captain, who was something of a wag. He told the General that he would not obey the orders of Acting Brigadier-General Gillmore, and that the only way Sherman could remedy his act would be to make him, the Artillery Captain, an acting Major-General. General Sherman did not act on the Captain's suggestion. Gillmore's increased rank was confirmed later, and he became in time a Major-General of Volunteers, while the Artillery Captain remained such to the end of the war.

A soldier in war should take what promotion he can get, whether it is "acting" or real. He should welcome an additional bar or star. The acting one looks as well in a shoulder strap as the other and makes an equally good impression on the beholder.

Winter coming on, we put our tents aside, having replaced them by log huts, in which we were very comfortable.

In the winter, General Grant handed me a complaint, sent to him

by President Lincoln, of insufficient food, received by a soldier from away down East in the backwoods of Maine. This soldier, in the Army of the James had written home to his people stating that he did not get sufficient to eat; the people at home, justly sympathizing with their soldier boy, sent the complaint to the President who sent it to General Grant to have due inquiry made. I sent the complaint to the Chief Commissary of the Army of the James for careful investigation. That officer, one of the best in the armies, went to the Corps, the Division, the Brigade, the Regiment and the Company to which the man belonged. He was taken to the dug-out in which the man, with two companions, was passing the winter. The Captain got the man to drag his great length out of his abode and found him an immense man, such as were many of the excellent soldiers from Maine. When the soldier's companions learned what the complaint was they laughed, saying, "A soldier's ration would never satisfy him; he would eat as much as three men." This reply was sent back and was, I believe, satisfactory, as I heard no more of it. Every complaint of a soldier was examined into and satisfaction given, if possible.

Here in the James River were a number of navy vessels. Some of the officers were old acquaintances of mine of Port Royal days. Among them was Rear-Admiral Alden, whom I had known in San Francisco when I had just joined my company of the Third Artillery at the Presidio. Alden was then a lieutenant in command of the surveying steamer, *Active*. He had with him Waite, Cuyler and Phil Johnson, the latter afterward a rear admiral. We had nothing at the time—1854–55—in the way of a fortification in the harbor, except a sand-bag breastwork hastily constructed on the ground blasted and cleared off at Fort Point, now Fort Winfield Scott. It was at the time of the war between Russia on one side and the British, French and Turks on the other—the Crimean War. It was apprehended by our military authorities that we would be drawn into the trouble on the Pacific Coast, and hence the erection of this sand-bag battery. We had plenty of old powder, solid shot and siege-guns. I was the only lieutenant at the Presidio, and was permitted to do all the drilling and give the men all the military instruction they received. I used to take the artillery company at the Presidio over the sand-hills to Fort Point and drill the men at the siege battery there, loading with solid shot and firing across from one side of the Golden Gate entrance to the other. I think the distance across may be about one mile. I instructed my men, at any rate, how to load and fire.

One day while I was on drill, the *Active* was seen coming into the harbor; Captain Alden in command. She was armed with one gun mounted forward. She was coming toward me and I was going on with my drill firing at Lime Point Rock, across her bow. I did

not cease firing and she did not cease advancing. Finally, I thought I would give her one last shot and see how near I came to her without hitting her. I came near enough and then held up. A day or two later in the city, I met Alden at the Army and Navy resort, "Barry and Patten's." Captain Alden at once mentioned the circumstance of my firing across the bow and said, "Morgan, if you had fired another shot I would have given you a broadside." Then we shook hands, and with our friends present partook of "Barry and Patten's best."

Those were grand times for the Army and Navy on the Pacific Coast. We did not put our money in banks (and so lost nothing when in 1855 so many banking houses in San Francisco failed), indeed, when we had paid our mess bills, laundry bills and "striker" we had nothing left. Our pay at that time was the same as that which "Prince" John B. Magruder told the British officers upon the Canadian frontier was a mere bagatelle which he gave to his servant.

That portion of the Navy that I saw in the James River in 1864 went down to North Carolina to help the Army in December to take Fort Fisher, at the mouth of Cape Fear River and below the City of Wilimngton. This was a failure. In January, 1865, General Grant sent down another expedition under Brig.-Gen. Alfred H. Terry, U. S. Volunteers, which was successful. Fort Fisher, commanded by my old friend Gen. W. H. C. Whiting, fell into our hands, and Whiting was mortally wounded. He died of his wounds March 10, 1865.

About this second expedition to capture Fort Fisher there is a story not generally known, in which I bore a part, that may not be uninteresting because of some of the facts and personages connected therewith.

In the Civil War we had, as in other wars, bad officers as well as good. We had some bad officers of volunteers who when made to suffer for their offenses charged their fall to Regular Officers, especially to "West Pointers," who were, it was charged, jealous of those Napoleons in embryo from civil life. If you believed those fallen ones you would be convinced that West Point graduated only bad men who lay in wait to trip up patriots who were in the volunteer service. I, at every opportunity, praised our volunteers whenever I found them deserving of commendation, and they were many. General Terry was a volunteer with whom I had served for years in the Tenth Army Corps; I knew him and respected him, and at General Grant's headquarters I praised him and recommended him for promotion. I had also praised the fighting qualities of Romeyn B. Ayres of the Army of the Potomac, and formerly a Lieutenant in the same battery of Artillery with me.

General Grant was so disappointed at the failure of the expedition to take Fort Fisher that upon the return of the troops he sent the commander to his home. He now determined upon a second expedition with an increased force, but the troops were of the same

Corps, the Tenth. Who should command this time? General Rawlins sent for me and directed that I go to Fort Monroe and fit out a certain number of transports with rations, fuel and water. I suppose I was sent because my wife was at Fort Monroe at the time, and I could attend to the simple business as well as any other officer. While at Fort Monroe on this duty I met the late commander of the first expedition to take Fort Fisher on his way to his home, and on his invitation accompanied him on his boat to Norfolk. He showed me at this time that he resented being sent home, blaming General Grant for for this, and in a general way charged West Point graduates with being unfriendly to him. While Grant was not unfriendly to General Butler, I did not, under all the circumstances, blame him for this feeling, but could not allow him to blame General Grant for his failures. I was convinced from what he said that if he found an opportunity to injure General Grant and West Point he would do so. He was an able lawyer, a good friend and a bitter enemy, and might strike some vicious blow. It was General Grant's intention that General Weitzel, of the Army of the James, would command that first Fort Fisher Expedition; but General Butler, being Weitzel's superior officer, accompanied the expedition as it was competent for him to do. And so far as I ever knew there existed only the kindliest feelings between Butler and Weitzel.

Before starting for Fort Monroe, General Rawlins warned me that if I was asked the destination of the troops I should say they were going to Sherman at Savannah. When I returned to City Point and reported to the Chief of Staff, he said, "I suppose you know where the troops are going?" I replied, "Yes, to Savannah." General Rawlins was an earnest, honest and patriotic man, but he was, when excited, one of the most profane men I ever knew. He was what has been sometimes called "a self-made man." He has told me: "Colonel, I was nothing but a poor charcoal burner's boy; I never had but six months' schooling in my life." He was a good man, loyal and true. Grant made him his Adjutant-General, Captain, when he was promoted to be a Brigadier-General, and after this he rose as Grant rose. He, Grant and Elihu B. Washburn were from the same town in Illinois. He meant no disrespect, no harm by his profanity; he was not an educated man; he had not free command of language, and to express himself earnestly he used profanity. He was far advanced in consumption and coughed and swore, but every waking thought was for his afflicted country. In talking he was no respecter of persons. It was a *façon-de-parler*. You can imagine how he received my reply. He said, in effect, "They have gone to take Fort Fisher which your friend Butler did not take." I asked, "What troops have gone and who is in command?" He replied, "Your old corps under your friend Terry." I said, "The Tenth Corps will take Fort Fisher." "How did it happen that Terry was

sent in command?" I asked. Rawlins replied that "Grant had not decided who to send in command when I told him that you spoke highly of Terry and of Ayres." But that while the General favored sending Ayres, he felt that as Ayres belonged to the Army of the Potomac, and the expeditionary force was to be of the Army of the James, the Tenth Corps, he would send Terry, who had always been with that Corps. Some few days afterward, General Rawlins sent for me, and in his hut told me that my old Corps had taken Fort Fisher. I was provokingly cool and said, "Yes, I told you the Tenth Corps would take Fort Fisher." Rawlins, with his peculiar language, interrupted by coughing, seemed more interested than I was in the good news. He said, "You take this mighty coolly." I said, "Yes, the Tenth Corps knows nothing of war but attacking fortifications; that is what they have been doing now for years." Rawlins replied, "Anyhow they have taken Fort Fisher." Then I said, "What is to be done for Terry?" "What do you want done for him?" he asked. I said, "I want him made a Brigadier-General in the Regular Army." He said, "Why so?" "I want him rewarded for what he has done; General Butler has gone home vowing vengeance against West Point, and I want the country to know that West Point appreciates merit wherever she finds it." General Rawlins stood up and went into General Grant's hut, and returning in a few moments, said, "It's done." I supposed and suppose now that General Grant had sent a telegram recommending as I had advised. I then told Rawlins I was not done. He asked, "What more do you want?" I said, "I want Terry made a Major-General of Volunteers." Rawlins said, "No, he cannot have it; a Brigadier-Generalship in the Regular Army is enough reward for anyone." I argued and urged but it was no use. However, Secretary Stanton, coming up from Sherman at Savannah, dropped in at Wilmington, and was so pleased with the capture of Fisher that he gave Terry a provisional appointment of Major-General of Volunteers, dated January 15, 1865, the same date as his appointment of Brigadier-General U. S. Army.

GEN. TERRY.

It is to be inferred from this case that General Grant did not take long to decide what action he should take and that he was willing

to take advice when he had reason to believe the source of the advice to be worthy.

It is known that he approved of Sherman's cutting loose from his base and marching from Atlanta to Savannah; this, against the urgent objections of his Chief of Staff, Rawlins, who was so opposed to the movement that he wrote over General Grant's head to the authorities in Washington, stating his opposition and objections. Ulysses S. Grant was not an ambitious man. On July 4, 1863, his army forced the surrender of the Confederate Fortress of Vicksburg, for which he was appointed Major-General in the Regular Army. He had now attained the summit of his soldierly ambition. All he desired in the way of rank and position was to be a Major-General in the Regular Army and in command of that part of the Army stationed on the Pacific Coast. He was not jealous of brother officers. I have heard him repeatedly say that he would just as soon be commanded by General Sherman or by General McPherson as that they should be commanded by him.

General Grant had been a poor man with a wife and four children to support; but he was a generous man, a liberal man in money matters. There was nothing mean about him. I have heard him in one of our camp-fire chats tell of Mrs. Grant's pocket having been picked of one thousand dollars and making no more ado over it than I would now if my wife lost one hundred dollars in the same way, and I know that I am better off, financially, than General Grant was in 1864. At the time when there was a well-defined rumor to the effect that some of the people of Philadelphia were about to present him with a house I stated at the camp-fire that it was said that the Commissaries of the Armies operating against Richmond were going to give me a house in Washington. Thereupon General Grant spoke for the first time of the talked of Philadelphia present. He said: "Are they, Colonel? If they do and I get the house in Philadelphia that is talked of, I will head the list of subscribers with five hundred dollars."

General Grant was devoted to his wife and children; he had them all with him at City Point during a portion of the summer of 1864. He would pass over a slight to himself, but want of respect to his wife, where respect was due, was not soon forgotten.

In 1865 General Grant had no desire for the Presidency; his ambition was fully satisfied, and he said, when the matter was spoken of to him, "If I supposed that President Johnson believed that I desired to be President, I would be so ashamed that I could not look him in the face." But he was urged, and by many persons who for some of the many causes that influence human beings wished him to be President, and to their persuasions he finally yielded and became a successful candidate. After serving one term it was not difficult to persuade him to accept a nomination for a second term.

Even Abraham Lincoln, one of the least selfish of our Presidential candidates, acknowledged that he felt that gnawing desire for a second term as President that he was unable to overcome.

While Grant was not eloquent in spoken words, he could write beautifully and to the purpose. I have seen him in his winter quarters at City Point smoke, talk and write all at the same time. I noticed this because I could not do but one of these at a time. General Grant was respectful to all about him; as considerate of and as respectful to the junior officer on his staff as he was to the oldest and highest in rank. While the bodily wants of enlisted men coming into headquarters were cared for by established organizations, officers reporting there were suitably provided for. Col. Fred Dent, Grant's brother-in-law, saw that no stranger officer lacked a meal or a bed.

I have myself experienced how desolate an officer feels at a strange post where, night coming on, no one asks him in, and he is compelled to be asked to be taken in. Grant did not neglect old friends if reminded of them. At the request of a brother army officer, I once called on President Grant at his hotel in New York, to request him to appoint the officer's son a midshipman at the Naval Academy., I had never met *President* Grant before and had not seen the General for years. On my making the request, he replied at once, "Certainly I will." That boy was appointed, and is now a Lieutenant-Colonel of Marines. The President's daughter passing through the room at the time without speaking, he called to her, "Nellie, don't you remember General Morgan?"

Grant liked a cheerful, optimistic subordinate, and therefore liked Hancock, who was the ideal soldier in battle, always ready, always soldierly and always handsome. He disliked a grumbler, and they have such in every army; often good-natured, ready for service and obedient, but they will grumble. I remember a case where for a long time General Grant omitted to forward with his approval a recommendation of the army commander for the promotion of a prominent, brave and skilful officer who had indulged in much fault-finding in the campaign from the Rapidan to the James. Grant, however, was just and fair, for later he gave this officer substantial promotion on being convinced that, notwithstanding his grumbling habit, he merited advancement.

Winter came on, and active operations about Richmond and Petersburg were suspended.

The people of the South, in and out of the Army, were tired of the War. Desertions were becoming numerous. The deserters asked to be sent North where they could get employment until the close of the War. The War Department enlisted all of them who were willing and formed them into regiments of U. S. Volunteers, nicknamed "Galvanized" regiments. They were officered by Union officers

and sent out to the frontier and against hostile Indians. I found several of these regiments in Kansas in the winter of 1865–66.

Our people in the loyal States also were becoming discouraged at what seemed the indefinite prolongation of the War. This feeling extended to the officers and men of the Army in the field. Grant, however, was sanguine, and felt that Lee was nearly exhausted, and that in consequence the fall of Richmond was near at hand, when the rebellion would collapse.

Our good and much tried President was back and forth between Washington and City Point. He was traveling between the harassing politicians and the armies operating against Richmond. The former were not quiet themselves and would not let him be quiet. That winter the armies in Virginia were quiet. I can imagine the President, worried by the politicians, felt like a passenger sitting up on the box of a coach with the driver of a too spirited team of horses. He was not satisfied with the conduct of the team and would take the reins himself had he not the good sense to know that the man in charge was a more competent driver than he was.

The fact that the President's son, Robert, was serving on Grant's Staff as an Adjutant-General of Volunteers made City Point additionally attractive for President Lincoln.

About the close of January, 1865, peace commissioners from the enemy, Messrs. Stephens, Campbell and Hunter, reported in front of our lines. General Grant admitted them inside and reported their presence to the Secretary of War. They were put on board the General's boat, where their comforts were provided for until the wishes of the President in their regard should be made known. They were allowed to wander about our headquarters until, after a few days, they were taken down to Hampton Roads and there met the President. The meeting seemed to have been fruitless, and they returned whence they came. This meeting took place early in February, after which the President again visited us.

As spring approached, Grant became anxious lest Lee, seizing what he and Mr. Jefferson Davis might consider the last chance for the immediate safety of the Army of Northern Virginia, even though the rebel capital must be abandoned, would slip out of his intrenchments, escape South, join Johnston in the Carolinas, and the combined forces crush Sherman. So the armies commanded by Meade, Ord and Sheridan were directed to be on the watch to prevent Lee from escaping South, and if he did start, to go after him "hot foot" and stick to him, heading him off if possible, and in any event to cling to him until he surrendered.

It had been understood—suggested by Sherman—that Grant should wait in front of Petersburg and Richmond until Sherman came up with his victorious army, which would make the capture of Lee a sure thing if Lee would only wait to be caught. The eastern armies,

with the help of Sherman's army, would bag Lee and his gallant army that they had been fighting for more than three years.

Grant's thought that it would be more conducive to harmony in the future if the Eastern Armies defeated their gallant, and for a long time, antagonist, without the assistance of any others.

Grant's fear that the Army of Northern Virginia would leave its long defended fortifications and go South was well founded, but he kept pressing Lee so closely that he could not get off. General Grant fixed upon March 29th as the earliest date on which the campaign of 1865 could open, and on that day we left our winter quarters at City Point and moved to the front. The President, although understanding that Grant was to await the coming of Sherman, shrewdly surmised from what he saw that the movement commenced March 29th meant that Grant was "going in" without Sherman's help.

The rains had been so heavy that the boggy roads in the vicinity of Petersburg, even now, at the end of March, were almost impassible for cavalry, and to enable artillery and wagon trains to move, the troops had to lay corduroy roads.

GEN. SHERIDAN.

On April 1st the forces under Sheridan captured Five Forks. This was a position held by Lee as very important, it being on his right flank and commanding the South Side Railroad. To hold it he had detached heavily from other parts of his front, as Grant had expected, and thereby rendered less difficult the success of the assault made on his center, April 2d, giving us the outer works around Petersburg.

General Grant was so pleased with our progress that he sent an invitation, April 2d, to the President, at City Point, to come out to visit us next day. He had ordered a bombardment to be followed by an assault early on the morning of April 3d, but the enemy had evacuated Petersburg at an earlier hour that morning than that set for the assault.

The rebel government had already, April 2d, left Richmond.

Grant and Meade with their respective staffs entered Petersburg on the morning of April 3d.

General Godfrey Weitzel occupied Richmond the same day.

While Petersburg had been evacuated, desultory firing was still going on, many shots striking around and near us. I remember a cyclone cellar to a house near which we halted and dismounted. The cellar seemed filled with women and children. Grant stood by a fence calmly writing in his note-book. He evidently thought the house protected us from the shots. I did not feel so sure of that and was relieved when the general got through with his notes and we moved away. He had ordered Meade to push on after the enemy and do his utmost to head him off. The President came along on his horse after awhile and he and General Grant exchanged congratulations for the fall of Petersburg. We had not yet heard of the fall of Richmond. They went into a large unoccupied house, and there on the gallery I saw the President seated looking down on a yard full of negroes and they all looking up at him, not a word being spoken on either side.

This was the last time I ever saw Abraham Lincoln, the great and good President of the United States. I turned off and joined General Grant, who pushed on to join our troops who were far ahead in pursuit of Lee.

On that 3d day of April, 1865, commenced a race from Richmond and Petersburg to the South, General Lee with his gallant, hard-pressed veterans, pushing down to join Johnston, and Grant with Meade, Ord and Sheridan pushing after him to head him off and bring him to bay. The night of April 3d found Grant with his staff bivouacked near the troops nearest to Petersburg. Our wagon trains had not traveled as fast as the troops, the roads were in very bad condition, and some of the troops were out of rations, but the spirit of the men was such that they pushed on after Lee trusting that the trains would catch up.

Skirmishing took place each day, and on the 6th occurred the Battle of Sailors' Creek, where six Confederate Generals and six thousand men were captured. At this time I estimated that Lee had remaining a force of not more than 16,000 men. His men were dropping out every day, and those who belonged in Virginia went home. They had nothing to eat but parched corn.

On the 6th we went into camp at Burkesville, but next day General Grant told us to "mount" and leave our camp equipage, messing arrangements, baggage, etc., behind. We rode on to Farmville where we stopped at the hotel. The night of the 7th was beautiful after a heavy rain, the moon shone brightly as Wright's Corps marched through, singing, "John Brown's Body, etc." The whole corps joined in the song. They were happy in singing it, and I enjoyed hearing it as I stood with General Wright on the gallery of the

hotel while the corps marched past. I have never enjoyed any singing as I did that singing that night. I was regularly assigned to a room in the hotel, but was awakened in the night by a loud rapping on the door, which I made out not to hear. The disturber of my rest stated the room was his, that he was a doctor and wished to come in. I made no reply. I was not *in need* of a doctor. The room and the one bed was only large enough for me, and after a while he went away, leaving me to sleep. I felt perfectly at home. Of course there were other rooms unoccupied in the hotel. In the morning we got something to eat and moved on after Lee. April 8th, where we messed I cannot now recall. I had had one good meal with General Gibbon, assisted by "Ed" Moale, off a nice white table-cloth spread on the grass. That night I shared the blankets of Col. J. C. Duane, Chief Engineer of the Army of the Potomac. On the 7th Grant wrote to General Lee suggesting the uselessness of further resistance, that he stop the further effusion of blood by surrendering the Army of Northern Virginia. Lee replied the same date to the effect that before considering General Grant's suggestion he desired to know his terms on condition of the surrender of the Army of Northern Virginia. Lee was not ready to surrender; he wished to gain time. If he could get South with the remnant of his gallant army he would. "All is fair in war." April 8th Grant replied to the effect that the men and officers surrendered shall be disqualified for taking up arms against the Government of the United States until properly exchanged.

The pursuit was continued, and fighting took place. Lee was pushing south. His advance thinking they had only Cavalry to contend with at Appomattox Station, where their rations from Danville should be, tried to break through our troops, but seeing the infantry bayonets of Ord and Griffin confronting them they thought better of it. "The jig was up." A white flag appeared with request for suspension of hostilities with a view to negotiations for the surrender of Lee's Army. Had not the infantry been there the rebels might have got through, and there would have been no white flag at that time. Fighting was going on in front and rear of Lee and very much in our favor when the white flag appeared. The Union generals feared treachery on the part of Lee, and now that the quarry for which they had been striving for nearly four years was within their grasp they wanted to close their fingers on it and not lose it by a trick. Sheridan told Grant, when he came up, that they could whip the rebels in five minutes if he would only give the word. But General Grant believed in the good faith of Lee and received the flag with confidence. This was the man whom the newspapers called "Butcher Grant." Now that General Lee having done all that was possible to get through to Johnston and failed, he, a humane gentleman, desired to surrender.

Generals Grant and Lee met at Appomattox Court House to discuss and determine definitely the terms for the surrender of the Army of Northern Virginia.

The meeting took place at Mr. McLean's house, the best house in the little town. General Lee with one Staff-Officer, Colonel Marshall, had arrived some time in advance of General Grant, and when the latter came up complained that he had been kept waiting, as he had been ready to meet General Grant since early in the morning.

I had been well acquainted with General Lee before the war. He was the superintendent of the U. S. Military Academy for two years while I was a cadet, his son, George W. C. Lee, being in the same class with me. Again he was my Commanding Officer at Harper's Ferry at the time of the John Brown Raid, in 1859.

The Staff accompanied General Grant, and when I appeared at the house General Lee was standing inside the door receiving the officers, who passed in front of him and to his right. General Seth Williams, of our Army, was on his left introducing each one as he entered. Williams had been Lee's Adjutant at West Point. I walked up, shaking hands with the Confederate Commander, and mentioning our former acquaintance, which he pleasantly acknowledged. General Lee was a handsome man of dignified appearance, about fifty-eight years of age, gray beard, over six feet in height, and dressed in a handsome new Confederate uniform of his rank, a handsome sword and gauntlets. I have already described General Grant. His dress was the same as he usually wore in camp, only now not looking quite so fresh. A soldier's blouse with the shoulder straps of a Lieutenant-General, no sword and soiled thread gloves. The "Old Man" paid but little attention to dress at this time. We none of us had reason to be proud of our appearance. We had been separated from our baggage and all belonging to us for days. The contrast in the appearance of the two generals was great, as I have thought of it since, but on that day the appearance of our general, whom we loved, was good enough for me.

After the introductions had been made, the two Generals sat down. Each had a table near him. Colonel Marshall had a seat. Seats in that room were scarce at that time. The Union officers stood up and were silent. I smoked my pipe, and I presume others did likewise. General Grant, at the request of General Lee, wrote out the following as the terms governing the surrender of the Army of Northern Virginia:

"Appomattox C. H., Va.
"April 9, 1865.

"GEN. R. E. LEE,
"Comd'g C. S. A.

"*Gen:* In accordance with the substance of my letter to you of the 8th inst., I propose to receive the surrender of the Army of N. Va. on the following terms, to wit: Rolls of all the officers and men

to be made in duplicate. One copy to be given to an officer designated by me, the other to be retained by such officer or officers as you may designate. The officers to give their individual paroles not to take up arms against the Government of the United States until properly exchanged, and each company or regimental commander sign a like parole for the men of their commands. The arms, artillery and public property to be packed and stacked, and turned over to the officer appointed by me to receive them. This will not embrace the side arms of the officers, nor their private horses or baggage. This done, each officer and man will be allowed to return to their homes, not to be disturbed by United States authority so long as they observe their paroles and the laws in force where they may reside.

"Very respectfully,
"U. S. GRANT,
"Lt.-Gen."

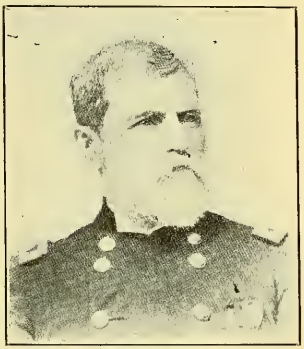
General Grant tells us in his "Memoirs," "When I put my pen to paper I did not know the first word that I should make use of in writing the terms." The language was from his own kindly, generous heart. After reading the terms, General Lee mentioned that in their army the artillerists and cavalry men owned the horses they used, and in this way suggested that these men be permitted to retain them. General Grant, reasoning that this would be about the last battle of the war, and as most of the men in the ranks were small farmers they would need the horses to put in a crop and carry themselves and their families through the coming winter he would instruct the officers who would remain behind to attend to the parole rolls to let every man of the Confederate Army who claimed a horse or mule take the animal home. General Lee then wrote out his acceptance of the terms of surrender, which were copied by Colonel Marshall and duly signed by General Lee.

General Grant turned over the terms of surrender to his adjutant-general, Colonel Bowers, to be written out in fair copy. Colonel Bowers was so overcome with excitement that he was unable to proceed, and turned over his pen, table and chair to one of Grant's military secretaries, Col. Eli S. Parker, who was a full-blooded Indian and Chief of the Five Nations. He continued and completed copying out the terms, which paper was signed by General Grant. When the writings were completed and the copies made, a copy of the terms of surrender signed by General Grant, and signed only by General Grant, was given to General Lee. (See illustration facing p. 252.)

General Lee then asked General Grant to feed his army, saying his men were badly off for food, they had been subsisting for some time on parched corn. General Grant turned to me saying, "Colonel Morgan, feed the Army of Northern Virginia." I had thought the matter over. I have hereinbefore stated that after the Battle of Sailors' Creek I estimated that Lee's army, present and fighting, numbered about 16,000 men. When we went into bivouac the first

night out of Petersburg some of the corps were short of rations, the roads were bad and the wagons had not kept up with our jubilant, victorious troops, and I did not know how we were off for food now. When men are busy they give very little thought to eating, but when they are idle, for want of occupation, they crave food or drink, or both. So I asked General Grant, "How many men are there to be rationed?" General Grant then said, "Yes, General Lee, how many men have you?" General Lee answered: "We have nothing but what we have on our backs; our books are all lost, our companies are mostly commanded by non-commissioned officers. We have nothing." I felt generous, and said to General Lee, "Say twenty-five thousand, General." General Lee assented, saying, "Yes, say twenty-five thousand men."

I will mention here that years afterward when Gen. John Gibbon and I were stationed at Fort Snelling, the former, who was the officer assigned by General Grant, with Generals Griffin and Merritt, to attend to the paroling of General Lee's army, opened a chest, and taking from it some papers told me the exact number of Confederates paroled. The number was about (I depend on my memory), 25,600. My only doubt is to the exact hundreds.



GEN. GIBBON.

I left the room at once, and finding one of my assistants, Col. Michael Peter Small, asked him if he could feed General Lee's army. The running of the two armies, Union and Confederate, had been very rapid, and I did not feel sure that the supply trains with the beef on the hoof had been able to keep up with the troops. Small replied: "Yes, I guess so. How many men have they?" I told him twenty-five thousand. "Give them three days' rations of beef, salt, hard-tack, coffee and sugar." Colonel Small jumped on his horse, saying, "All right."

Thus ended the conference between Generals Grant and Lee. The latter mounted and left for his headquarters with Colonel Marshall. General Lee may have been joined by other officers of his army, as some of them were present after the meeting was in progress. I met and spoke with his son, Gen. W. H. F. Lee, whom I had met in California when he was a lieutenant in the Sixth Infantry.

General Grant and his Staff mounted and left for his headquarters. On the way, riding by the side of General Grant at the head of the column of officers, I discussed with the General some of the incidents of the day, among others that I did not believe that General Lee had been waiting to surrender, but that he had been

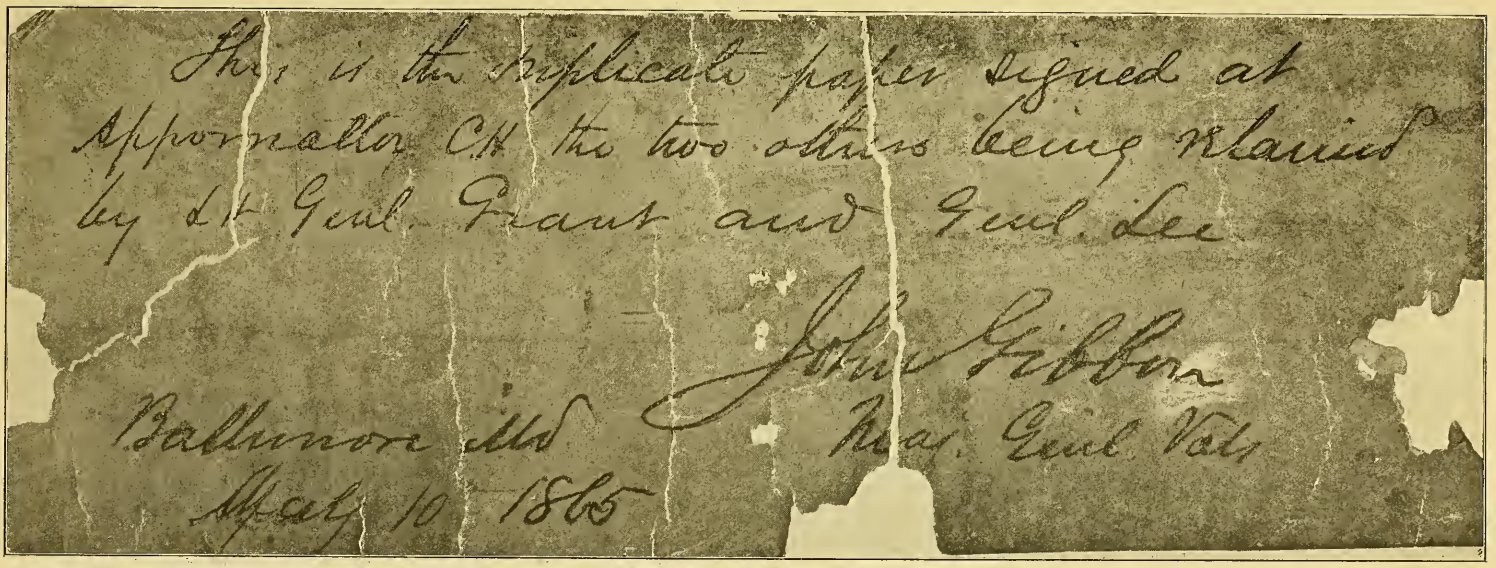
doing his very best to escape and join Johnston, and only gave up when he saw our bayonets in front and confronting him. General Grant said this was also his view of the matter.

Our column being between the two armies, it was dusk, the hour being about six o'clock, and when presently the column was halted by the Union pickets, General Grant making no reply, I took off my hat and waving it, cried out, "There is no more fighting, men, the war is over." The men lowered their muskets and yelled with joy. We passed into General Grant's headquarters, where I saw Hon. Elihu B. Washburn, Grant's friend, standing in the door (between the flaps) of the General's tent. I went on to my own tent.

On the morning of April 10th, as I entered the McLean house, I saw, sitting there talking with General Grant, Maj.-Gen. Henry Heth of the Confederate Army, an old friend whom I had first met at Fort Snelling, Minnesota, and whom I had not met for years. I cried out, "Hello, Heth, how are you?" He answered, "Hello, Morgan." We shook hands. I said, "When you are through talking come out; I want to see you." He came out. The war had lasted so long that we had become used to it, and those whom we loved prior to 1861 we loved in 1865. I had some good money, and General Heth had none. I offered him all I had, but he declined my offer saying, "General Grant has been so good as to let us have our horses; I am near my home and will need no money. Then spoke one of our Captains, "Well, General, we licked you, didn't we?" General Heth said, "Yes, you did." "But," said the Captain, "never mind, let us have a drink." My friend laughed and accepted the invitation.

The surrender of the Army of Northern Virginia to the Armies of the Union under Grant was an accomplished fact. Grant and Lee had fought and now had met and shaken hands. These armies had fought as no armies had fought before. The defeated legions were hungry and the conqueror gave them to eat. The defeated ones wanted to go home to their farms, to turn their swords into plowshares, and the conqueror generously, kindly gave them their swords with transportation to their homes.

This day (April 10th) forty-two years ago, General Grant, before leaving Appomattox for Washington, rode out with his Staff between the two armies and met General Lee, who seeing him came out to meet him with some of his officers. We chatted for a while. One I remember spoke to me of his apprehension of severe punishment for having been a rebel. I told him, what we all believed, that our good President would be magnanimous; that they were fortunate in that we had so noble a man at the head of our Government. Generals Grant and Lee shook hands, and we bowed our good-by and left for our long ride of two days to Burkeville, and from there


This is the duplicate paper signed at Appomattox C.H. the two others being retained by Lt Genl. Grant and Genl. Lee

John Gibbon
Maj. Genl Vols

Baltimore Md
May 10 1865

Facsimile of original endorsement on "Appomattox Agreement" deposited in Military Service Institution by Gen. Gibbon. *(See other side.)*

Appomattox Court House Va
April 10th 1865

Agreement entered into this day, in regard to the Surrender of the Army of Northern Virginia, to the United States authorities.

1st The troops shall march by Brigades and detachments to a Designated point, stack their arms, deposit their flags, sabres pistols &c and from thence march to their homes, under charge of their Officers, unmolested by their respected Division and Corps Commanders, Officers retaining their side arms, and the authorized number of private horses.

2nd, All public horses and public property, of all kinds to be turned over, to the Staff Officers designated by the United States authorities.

3d. Such transportation as may be agreed upon, as necessary for the transportation of the private baggage of Officers will be allowed to accompany the Officers.

[illegible]ed over at the end of the [illegible] to the nearest United States Quarter Master receipts being taken for the same.

4th Couriers and mounted men of the Artillery and Cavalry whose horses are their own private property, will be allowed to retain them.

5th The surrender of the Army of Northern Virginia shall be construed to include all the forces operating with that Army on the 8th instant, the date of the commencement of negotiations for surrender, except such bodies of Cavalry as actually made their escape previous to the surrender, and except also, such pieces of Artillery as are not more than Twenty (20) miles from Appomattox Court House, at the time of surrender on the 9th instant.

John B. Gibbon
Maj. Genl. Vols

Chas Griffin
Bvt Maj Genl U.S. Vols

R. [illegible]
Bvt Maj Genl

J. Longstreet
Lt Gen

J. B. Gordon
Maj Gen

W. N. Pendleton
Brig Genl & Chief of Arty

Facsimile of original in Museum Military Service Institution.

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by rail to City Point where we arrived in the small hours of the morning of the 12th.

General Grant believing that the last battle of the Great Civil War had been fought left the field for Washington. He wished at once to cut down the expenses that were then accumulating and piling up taxes to be paid by generations yet unborn.

The Armies were speedily disbanded, and the farmers, artisans, merchants and professional men who composed them were sent to their homes. Very soon these citizens fell into their proper places. They were not the same as when, a few years before, they left for the war. While some may not have been improved, the great majority had become broader, more enterprising, more self-reliant and more useful citizens. These were sufficient to leaven the great mass of our American people. I leave them to grow up a nation such as we have to-day.

Unthinking men have criticized General Grant for having, at the close of the War, accepted presents. I know of no American who at the time could accept presents from his fellow citizens with so good a grace as could the General commanding our armies, who by his wisdom had brought the great Civil War to a happy close. My opinion is, and has been, that while Grant was not unmindful of the kindness shown by individuals in giving the presents, he did not think it worth while to decline them. If our people as a nation, through their representatives in Congress, were not sufficiently patriotic to adequately reward him, the few who were patriotic and did appreciate the services rendered might be allowed, in a small degree, to express their thanks.

General Grant had much that was unpleasant to contend with after he left his Western troops with whom he had fought, whom he had successfully led for years, and taken direct command in the East. His Western troops knew no general superior to him; there was no talk in the West by officers or newspapers as there was in the East, of "Bobby Lee" as one probably his superior. U. S. Grant and R. E. Lee were both graduated at the United States Military Academy. The first in 1843, while Lee was graduated in 1829. Grant served in the Infantry and Lee in the Engineer Corps. Of the two, Grant alone served with troops.

Grant resigned from the Army in 1854 and Lee in 1861. Both had rendered distinguished services in the Mexican War. When Grant resigned the Army consisted of eight regiments of Infantry, four regiments of Artillery and three mounted regiments, with Staff Corps and Departments.

The Army was so small when I entered it in 1854—the year in which Grant left the Army—that before the Civil War broke upon us I could give the initials of every officer in it above the grade of Second Lieutenant. So we knew, or thought we knew, all that was

good or bad about every officer in the Army at that time. We might have said that we had their records at the end of our tongue.

The reason for Grant's resignation in 1854, as well as that of Lee in 1861, was known. Grant's case was unusual at the time and was discussed by the Army. That of Lee became so common that what at first was looked upon with disfavor was after a time treated with indifference.

Lee's record before his resignation was excellent; that of Grant was not so good as it had been. The prominent officers in the Eastern armies were mostly of the Old Army, some of whom estimated those two officers according to their Old Army records. Grant was more highly considered by the people of the North than he was by those officers when he came to command them, when in 1864 he was made General in Chief. The people had no prejudices to overcome, and looked at what he had already accomplished in the Civil War. Those officers, some of them, overlooked this when comparing him with Lee, considering only what he was in the Old Army at the time of his resignation. To be considered highly in the Eastern Armies he must add new laurels to those already won.

In the South at this time there was but one political party visible, and that was for the vigorous prosecution of the war. In the North we had a "Copperhead" press that opposed the administration and the prosecution of the war. These papers magnified the numbers and the losses of the Union forces, while they minimized those of the enemy. They causelessly blamed our Generals, while they sounded the praises of Lee as highly as did the Press of the South. It should not be difficult to realize the different effects produced by such publications on the soldiers of the Union and their opponents. We were fighting for the Nation's life and yet the doctrine of "Freedom of the Press" was so respected by our Governmental authorities that publishers of the Copperhead Press escaped being imprisoned in Fort Lafayette.

All eyes in the North were watching the operations of the Armies in Virginia, where our armies had had several commanders who were declared one by one unequal to the task assigned them, and were removed. Would Grant prove unequal to his great task? The hope of the opposition Press was that he too would fail, the War close and peace be secured by compromise. If Grant was sensitive (and who is not?) his campaign of 1864 was not one of unalloyed pleasure.

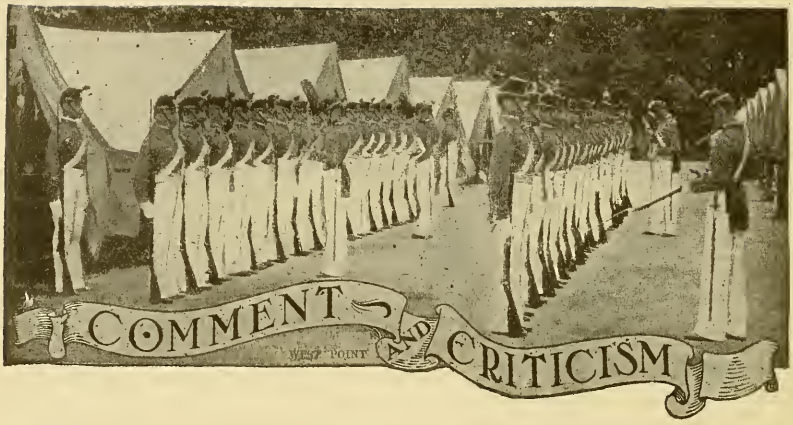
Demosthenes, I believe, calls "action" eloquence. General Grant made his greatness known by his action. It was he who determined the mild terms governing the surrender of Lee's Army at Appomattox without suggestion from anyone.

Grant, the victor, in his soldier's blouse, without a sword! Lee, a handsome man in his brand new uniform and handsome sword by his side. What a contrast! Lee, dignified and cold. Grant, pleas-

ant, cordial, ready to do all the kindness in his power to an old comrade, a late powerful, active foe, but now beaten after such a contest as has rarely, if ever, been witnessed; Americans fighting against Americans. Lee did not offer to surrender his sword, nor did Grant even suggest it. The officers of the defeated army kept their swords, their baggage and their horses. The enlisted men, who claimed to own horses or mules were allowed to keep them. The four years' war was at an end, these animals would now be used only for peaceful purposes. The Commissary, at Lee's request, issued to the defeated army, which had been living on parched corn, rations of fresh beef, salt, hard-bread, coffee and sugar, while the Quartermaster gave them all the wagons he could spare. General Grant did this. Were such terms ever before given by a conqueror to a defeated foe? Was not Grant eloquent?

The War was at an end and General Grant must have felt happy and could forgive, and I am sure did forgive, his cavilers, and smile at the remembrance of the would-be critics in Newspaper Row.

The War was over, the laurels were won, and the people crowned Ulysses S. Grant, not with a golden crown ornamented with precious stones, but with the grandest gift at the disposal of a free, grateful people, the office of President of the United States for two terms. It was a terrible war, a Civil War, a war between friends and brothers; but the blood of the Nation, of the North and of the South, shed profusely on many a battle-field, deplorable as it was, it proved to be the seed of a great nation, of a world power. "One of the most fortunate of nations, one of the most prosperous and one of the most peaceful and orderly."



"A New Monthly Service Magazine?—A Suggestion."*

Brig.-Gen. Charles A. Woodruff, U. S. A. (Retired.)

"I believe that every one who has the welfare of the army at heart would be delighted to see a monthly army publication second to no service journal in the world, thoroughly representative of the Military Service of the United States, one which, while representing all branches of the land service, regulars, volunteers and militia, should voice the best sentiments and aspirations of the service collectively, worthy of the present exalted status of our profession, and one that would be regarded by all classes as the exponent of the soundest opinions and highest ideals of the army.

"I do not wish to be understood as disparaging either one of the three very creditable journals we now have (I do not include the *Artillery Journal,* for I understand that to be, largely, an auxiliary text-book of the Artillery School), each is good in its way, and the JOURNAL OF THE MILITARY SERVICE INSTITUTION, during its twenty-seven years of existence has published papers of great excellence and value, but I believe that if a union of the three could be effected upon a general satisfactory basis, the interests of no corps of the army would be injured, that the service generally would be benefitted, and that we would have a publication second to no service journal in the world, and of which we should all be proud.

"Personally, I desire to read all three of these journals, for they have many articles that are interesting and valuable, but if I could get the contents of the three in one, I should much prefer it. I believe such a journal could be made a power for good by shaping public opinion.

"The army has too often suffered from self-inflicted wounds, caused

*This letter, addressed to the Secretary, is published with the approval of the Publication Committee without remark, for the information of the Service at large, or for further comment from our readers. [EDITOR.]

by the destroyer of family peace—jealousy. A united service journal should, and I think could, avoid some of that. We have had too much politics in the army; we all know it, but we have had no voice of our own that under par. 5 A.R. could be raised in protest, but a journal speaking for the whole army could discuss general subjects with some force and effect.

"I would not have our cavalry and infantry societies lose their identity, but I would have their journals merged into a service periodical. In exchanging their corps quarterlies for a general monthly, each branch might have its editor control certain space in each issue of the monthly service magazine for his special arm of the service, the total perhaps being equal to the space now at his disposal. Such a periodical would broaden every officer's views. While it is well that an officer should be a bit conceited in regard to the importance of his own branch of the service, he should remember that, at times, all the other branches are, at least, useful; *esprit de corps* is very valuable, but an *esprit de corps* that includes the service is much more valuable. All our young officers hope to be generals, and the greatest generals are those who understand and can utilize all branches of the service.

"The three editors might constitute a board to whom could be submitted certain papers of doubtful value or propriety which either one might personally hesitate to accept or reject.

"By the union I have suggested, the comparative cost of publication would be materially reduced, the returns from advertising would be immensely increased, each writer would have more readers, and that always has a tendency to put a writer on his mettle.

"I think the subscription list would greatly exceed the present subscription to the three. A few now subscribe to more than one, and a few would scorn to read a general service magazine, but army officers generally would eagerly subscribe for the united periodical, many more National Guardsmen would want it, the leading newspapers would take it, clubs and reading rooms would find it in demand and very many of those earnest, valuable friends, who, while not in the army, are with it heart and soul, would welcome such a magazine.

"Judging by the personnel of the Council of the Military Service Institution, from my personal experience while a member of the Council, from the list of Gold Medalists, of those who received Honorable Mention and the subjects presented, I think no fair-minded man can believe that the Institution favors any corps or branch of the service to the detriment of any other, hence my reason for writing to you, General, knowing that if the Council thought the plan impracticable or chimerical, the paper would be pigeonholed and no harm done; on the other hand, if taken up by you and not considered worthy of action by the other societies, it could be attributed to a retired brain.

"I have only suggested a few reasons that appeal to me as sane and sound, to present the subject for consideration.

"If the matter is deemed worthy of discussion, it would be necessary to bring together representatives of the different societies interested to evolve and consider a plan for union or consolidation, for, as I said, mine is only the suggestion of an idea."

BERKELEY, CAL., *July* 10, 1907.

"Trumpeters and Trumpet Calls Versus Trumpeters and Buglers."

First Lieut. G. A. Weiser, Fifteenth Infantry.

I find it necessary to reply to Major Mahan's article, "Trumpeters and Buglers," in the April (1907) number, in which he criticizes my paper in the December (1906) number of this JOURNAL, entitled "Trumpeters and Trumpet Calls."

In the first place, the latter article was written for a United States Service Journal, no allusion being made anywhere in the paper to the European armies. It was an article written from a practical, not theoretical point of view, based on practical experience, for the benefit of the majority of army officers who, as Major Mahan very correctly states, "do not know much about music" (nor is it at all essential for them to know much about that subject), and my article was so worded as to readily appeal to the mind of the layman and not try his patience with a scientific exposition on the production of tones, nor with an elaborate description of musical instruments used in other armies.

It was furthermore assumed, and quite reasonably so, that officers on duty with troops at posts or stations undoubtedly had noticed, at one time or other, defective sounding of calls, and I also know that any of the above officers would not care one iota for a *musical* call if the trumpeter, in the endeavor of producing musical notes, would fail to make himself heard at a sufficient distance and thus cause these officers to be late for formation, unless their timepieces agree exactly with that at headquarters, which is very seldom the case.

I have made a study of music since boyhood days and been actively engaged in musical lines for many years and know music not only from a theoretical basis, but have gained experience in a practical way in the subject.

Major Mahan states that I introduced confusion into my article by using the term "trumpeter" and "bugler" synonymously. His attention is invited to the following quotations from the various regulations issued for the information, guidance and use of the army:

ARMY REGULATIONS, 1904.

Paragraph 266.—"Appointments of non-commissioned officers will take effect on the day of appointment by the authorized commander, and of *musicians* and *trumpeters* on the day of appointment by the company commander."

Paragraph 1190.—"There will be furnished by the Quartermaster's Department to each field-battery two small brass B b bugles; to *every other company* two G trumpets with F slides, and, if desired, detachable F crooks, * * * the foregoing articles will conform to pattern in the office of the quartermaster-general."

The phrase *every other company* applies to troops of cavalry, where the performers on said instruments are termed trumpeters; to companies of infantry, coast artillery and engineers, where they are styled musicians.

In the last section of par. 260, "Field Service Regulations," (page 98), we find that "Mouthpieces of bugles are removed," * * * in which case the word "bugles" applies to all arms of the service.

On page 61, par. 134, F. S. R., caution is given that "no *trumpet* or drum signals, except "to arms" or "to horse," will be sounded, * * * where the word "trumpet" also refers to the three arms of the service.

In the "Manual of Guard Duty," pars. 189 to 192, the term musician covers the troop or company trumpeter as well as the battery bugler, inasmuch as this manual "is published for the government of the Armies of the United States" and not for any particular arm.

The explanatory note under the heading "Trumpet Calls," etc., in the drill regulations for the separate arms, states that, "To economize space the music is written an octave higher than the trumpet scale and is adjusted to the scale of the bugle." Here the word "trumpet" evidently refers to the instrument so elaborately described by Major Mahan, but the term "bugle," nevertheless, does not mean only the battery bugle, but the troop or company trumpet as well, and the various *trumpet* calls given in these regulations are sounded by the troop or company trumpeters on the trumpet, and they are also sounded by the battery bugler on the bugle.

From the foregoing quotations the following facts are established:

1.—The Quartermaster's Department issues bugles and *trumpets* for the use of the army.

2.—Trumpet calls are sounded on the trumpet and also on the bugle.

3.—Foot troops are supplied with the trumpet and not with the bugle, as Major Mahan erroneously assumes.

4.—The terms trumpeter, bugler and musician, and trumpet and bugle are used on various occasions synonymously and indiscriminately throughout the official publications, no fine distinction being drawn, as it is assumed that persons familiar with the military service know how the different terms are applied generally and how they should be used in particular whenever necessity therefor arises.

Anent the statement of the French professor of the trumpet, that it would take, under average conditions, four years for a young man to become a competent trumpeter, and under favorable conditions, two years, it seems that our military service would be very short of trumpeters, as under *average*, as well as *favorable*, conditions no man in our service would be excused from duty for several years in order to learn to play

the trumpet, if that is the sort of trumpeters the professor referred to; on the other hand, if he had in mind *a trumpet player,* a musician who plays his part in a band, then there seems to be no plausible reason to bring into connection the trumpeters mentioned in my article with the graduates of a conservatory of music.

My esteemed critic (on page 218) states that the tongue is not an element used in producing sounds. On page 219, however, he contradicts himself and explains in about 150 words that the tongue actually *is* a function essential in producing consecutive sounds (on a brass instrument). The expression "hammer out the note" is used by band leaders and bandsmen, frequently, instead of applying the expression "striking the note," as found in numerous text-books. The fact of the matter is that the tongue is as much a function in *playing* a brass instrument (in contradistinction from producing single or separate sounds) as are the lips, breath, throat and lungs, enumerated by Major Mahan.

Quoting from J. B. Arban's book of 355 pages on the cornet, under the heading of "Method of Striking or Commencing the Tone," we find that * * * "the performers should invariable *strike* the note * * * These are the only three methods of commencing, or, as it is called, 'striking' the sound; further on I will duly explain the various articulations. I shall not pass to the slur until after the pupil shall have thoroughly mastered the *striking of the note.*"

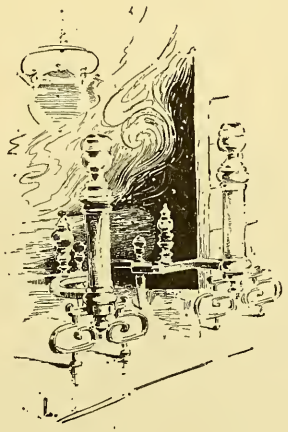
So far the quotation. True enough, those expressions may be conventional, but they do not alter the fact that the tongue is a very important element in correctly performing on a brass instrument; that it acts as a valve in gauging the air supply through the lips is not for a moment denied, but it is still maintained, and every bandleader or cornetist in the service will uphold me, that the tongue is an essential and predominating factor in commencing and articulating notes, or a series of notes, especially in double and triple tonguing; and the expression to "hammer out the notes," while it may sound somewhat harsh to a delicate musical ear, is anything but "wholly in error," and from a *practical* standpoint, applying it to our trumpeters, is perfectly correct, it being more readily understood by them than a scientific reasoning on the production of sounds.

As for the use of the cornet mouthpiece on *our trumpet* suffice it to say that I have reliable information that out of twenty-four trumpeters in one of our infantry regiments, twenty-two use cornet mouthpieces, purchased by themselves, and it is safe to assume that similar conditions obtain more or less in other regiments; at least, one trumpeter of experience told me that he has served as trumpeter in two other regiments and nearly all their company musicians use cornet mouthpieces, which again demonstrates the predominance of practice over theory, and the service at large evidently has not been impaired by the use of the cornet mouthpiece on the regulation trumpet.

Referring to the use of the mouthpiece by itself in order to keep the

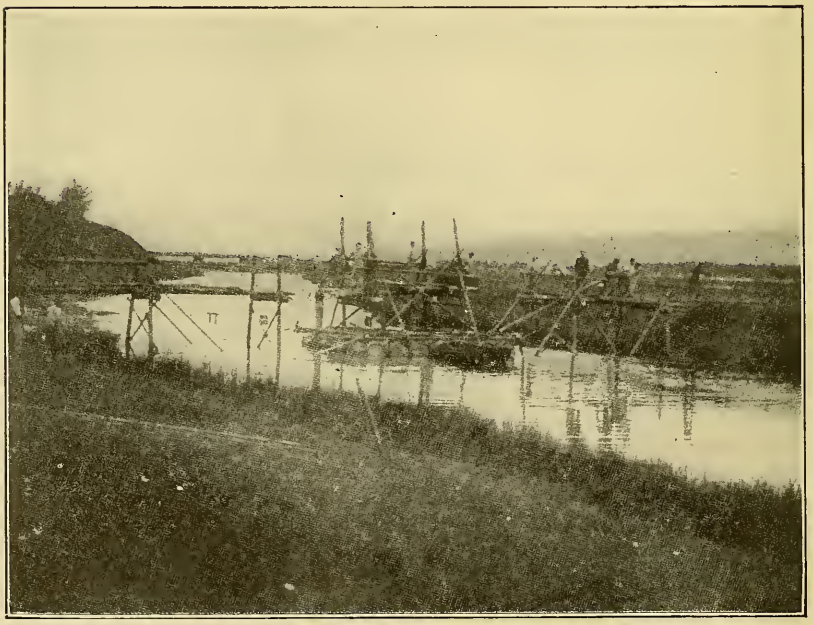
lips in good condition and of which suggestion my esteemed critic remarks, "Practice with the mouthpiece alone is of no value, as the pressure on the lips cannot be regulated with any accuracy," it is maintained that this is only true as far as producing a tone is concerned, but, using the words of a military bandleader, "it will help to preserve the embrouchure of an experienced player and will serve to strengthen that of a beginner." This same bandleader told me that he used the cornet mouthpiece on trains and boats when traveling and it is impracticable to play the instrument, and it helps him greatly in keeping his lips in condition for playing. He further states that the majority of cornet players known to him do the same thing. Anyone who has *actually played* a trumpet or cornet can readily understand my views on this point, and it is only for those, or the officers who may be in authority over them, that I recommend this use of the mouthpiece when it is otherwise impossible, on account of the surroundings or time of the day, to use the instrument proper.

The mention Major Mahan makes of one Joseph Lark and the manner in which he sounded taps only corroborates my statement that "such calls as 'Church Call,' 'Call to Quarters' *or Taps*' are susceptible of some expression, *especially the latter,* and it is at funeral ceremonies that *a good trumpeter is appreciated by the manner in which he sounds 'Taps.'*"



(*From Royal Engineers' Journal.*)

1. G. S. Wagon on Raft Made of Waterproof Bags.



2. Cut Raft for Trestle Bridge.

SOME IDEAS ON FIELD ENGINEERING.

(From The Royal Engineers' Journal.)

THE following extracts from the reports on the Annual Field Works Courses of various Companies are published for general information:

1. WATERPROOF BAG RAFT AND FOOTBRIDGE.

The Field Troops experimented with waterproof bags, made of india rubber with an outer cover of canvas, and inflated by lung power. The bags can be used separately for footbridges or joined together to form rafts.

Fig. 1, *Plate* I., gives suggestions for superstructure for a raft and for a footbridge. *Photo* 1 shows a G.S. wagon on a raft made of sixty bags.

2. SHEET BOAT.

The same units made a sheet boat of six planks nailed together (*Fig.* 2). A tarpaulin was lashed on outside to the uprights, and a few boards placed in the bottom of the boat.

3. SINGLE BARREL RAFTS.

The troops also used single barrel rafts, made after the Japanese model, as shown in *Fig.* 7.

4. CUT RAFT IN TRESTLE BRIDGE.

Fig. 3 and *Photo* 2 show a novel method employed by the Forty-second (Fortress) Company for forming cut in a trestle bridge which was erected across a moat with no current in the water. The raft supporting the trestles of the cut was made of twenty-eight 108-gallon barrels. A party of twenty-two men could form cut and reform bridge in five minutes.

Overhead Cover in Permanent Fire Trench

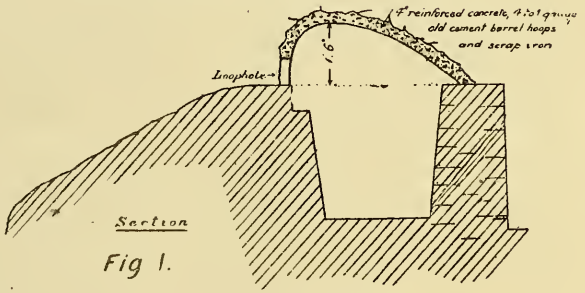


Fig 1.

Electric Mine for Railway Lines.

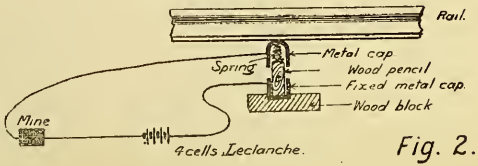


Fig. 2.

Detail of Standard for Hand Rail.

Scale 1" to 1'.

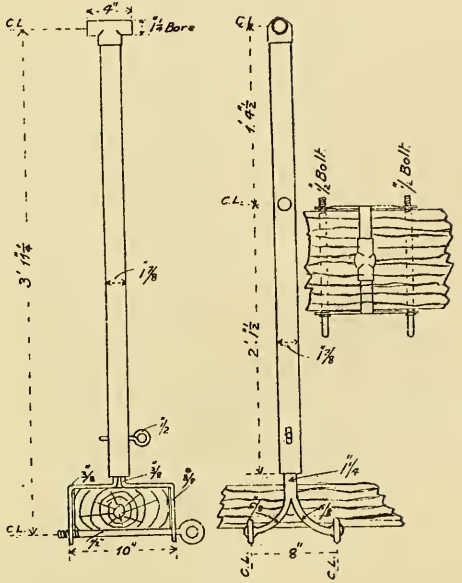


Fig. 3.

PLATE II.—SOME IDEAS ON FIELD ENGINEERING.

(From The Royal Engineers Journal.)

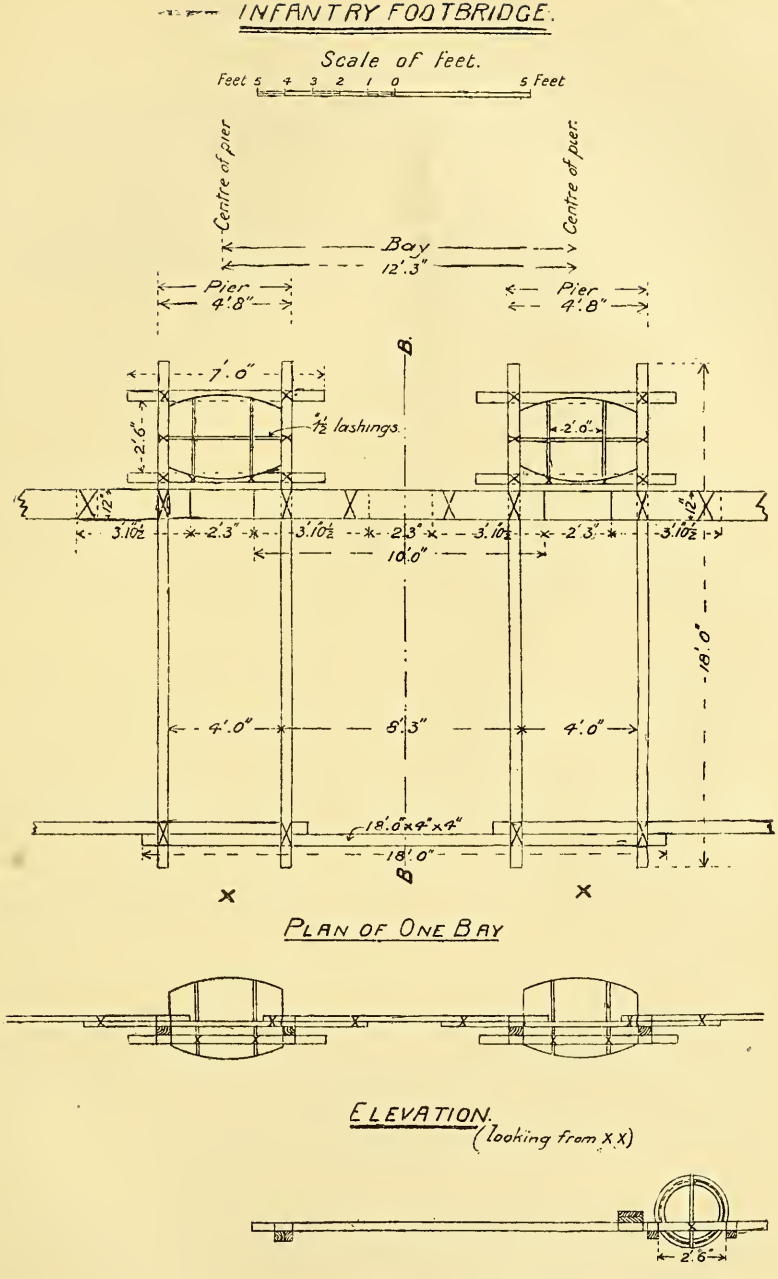


Fig. 4.

PLATE II.—SOME IDEAS ON FIELD ENGINEERING.

(From the Royal Engineers Journal.)

5. WOODEN MORTAR.

Fig. 4 shows a 5-inch wooden mortar constructed by the Seventh (Field) Company. It was made up in four sections with iron tongues and bound with 2-inch rope, which was kept wet when the mortar was being used.

The projectiles were made of tin, the charges being four pounds three ounces of guncotton and the total weight four and one-half pounds. The tin case was found too light. The projectiles were fired with No. 8 detonators and safety fuse to burn seven seconds; this arrangement worked well. A range table was made out as follows:

Charge.	*Range.*	*Time of Flight.*
¾ oz.	48 yds.	4½ secs.
1 "	110 "	5½ "
1¼ "	130 "	6¼ "
1¾ "	160 "	6¾ "
2½ "	176 "	7¼ "

6. ROLLER GRENADE.

The same company made a roller grenade (*Fig.* 5), carrying twenty-four pounds of guncotton. It was pushed forward by shafts made of drain rods.

7. LIGHT PILE FOOTBRIDGE.

The Fifth (Field) Company constructed a rapid pile footbridge (*Fig.* 6) as follows:

Light trestles were made, consisting of two legs with a transom fixed by one 5-inch nail at each leg. The first trestle having been pushed out into position, a plank, weighted down by men on the shore end, was passed across to the transom. One man then went out and drove in the trestle with a maul, and added a few more nails to the transom when it had reached the required level. The process was then repeated until the bridge was finished.

The man with the maul reached the far bank, twenty-eight feet across, in four and one-half minutes, and the bridge was completed in eight minutes.

8. LIGHT FLOATING FOOTBRIDGE.

The same company made a light floating footbridge (*Fig.* 4, *Plate* II.) with single 108-gallon casks at 12 foot 3 inch centers. To the bottom of each cask was lashed, as outriggers, a pair of light spars 18 feet long, braced at their ends. The footway consisted of single 12-inch planks lashed to the outriggers close to the casks.

The bridge carried men in single file at 4-foot distance.

9. TUBE HAND-RAIL POST FOR PONTOONS.

The Fifth Company experimented with a tube hand-rail post for use on pontoon bridges. The arrangement is shown in *Fig* 3, *Plate* II.

Iron straps, made to fit over the top and sides of the saddle, are fastened to the saddle by bolts underneath. The straps have short turn-up pieces which meet over the top of the saddle and take the tube post, which is dropped on to them and pinned through. The posts have tee pieces at their tops and holes near their centers, to take respectively 3-inch and 2-inch ropes as hand-rails.

Some Ideas on Field Engineering

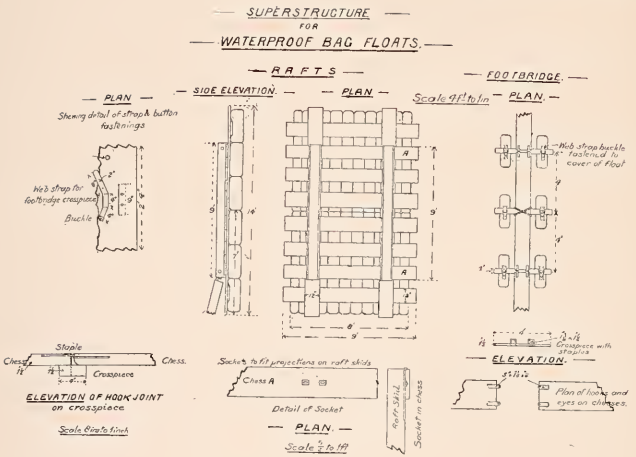


Fig 1

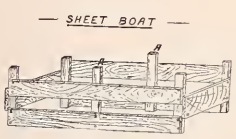


Fig 2

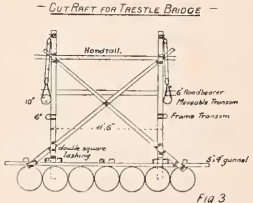
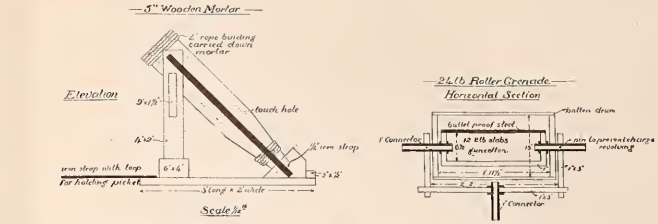


Fig 3



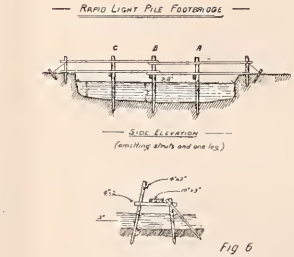


Fig 6

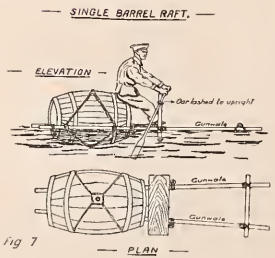


Fig 7

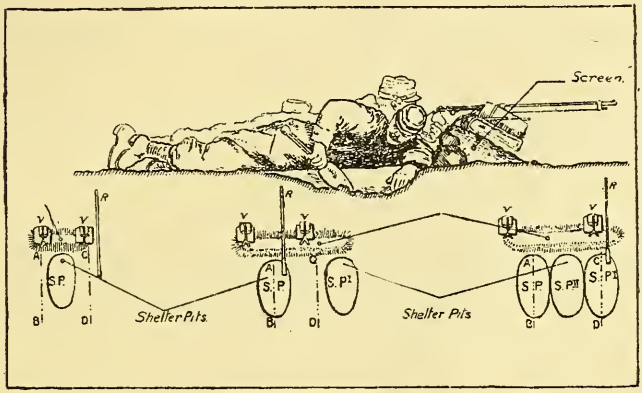
PLATE I.

(Reproduced from The Royal Engineers' Journal.)

PLATE SHOWING
SHELTER PIT MADE BY TWO COMPANIONS

Reference.

V = Valise.
R = Rifle in firing position of soldier not digging.
A.B.= Ground occupied by one of the soldiers.
C.D.= do: do: do: do: do:
S.P., $S.P.^{I}$, $S.P.^{II}$ = Shelter Pits.



1st Period. Plan.

A B digs out S.P. throwing up screen between the two valises V. and V.

2nd Period. Plan.

A B is ready to fire out of S.P; C D digs out pit $S.P.^{I}$, and throws up screen on right of his valise prolonging existing screen.

3rd Period. Plan.

A B starts digging again and excavates pit $S.P.^{II}$ and increases thickness of screen. C D is ready to fire out of $S.P.^{I}$ and brings his valise close to his side.

4th and subsequent Periods.

The two companions work and fire alternately, and gradually get into more convenient positions as screen and pit give greater shelter.

Fig. 5.

PLATE II.—SOME IDEAS ON FIELD ENGINEERING.

(From The Royal Engineers Journal.)

This fitting does not injure the superstructure of the pontoons. It is sufficiently rigid, and yet sufficiently pliant to give way without serious damage if collided with.

10. FERRO-CONCRETE FOR OVERHEAD COVER.

Fig. 1 shows a design by the First (Fortress) Company. This method of constructing overhead cover with ferro-concrete might prove useful, and should present little difficulty in semi-permanent works. It could easily be disguised or concealed.

11. ELECTRO-CONTACT MINES ON RAILWAYS.

Fig. 2 shows a simple method of firing an electro-contact mine under a rail. It was successfully experimented with by the Tenth (Fortress) Company.

12. STRENGTHENED SANDBAGS.

The same company found that the splitting of sandbags filled with shingle, when struck by bullets, was much reduced when the sandbags were used double, *i. e.*, one inside another.

13. MASKING LOOPHOLES.

The Twenty-third (Field) Company tried a novel means of masking loopholes. A network of string was stretched from the top of the loophole to the toe of the parapet, and heather and weeds were fastened to the net. This arrangement fulfilled its object, and did not seriously impede the view through the loophole.

14. ENTRENCHING LYING DOWN.

Fig. 5 shows the French plan for excavating cover under fire, the men working in pairs.

OUR MILITARY FORCES IN INDO-CHINA.

(*From Armee et Marine for February* 20, 1906.)

TRANSLATED BY CAPTAIN L. S. SORLEY, FOURTEENTH INFANTRY, FOR MILITARY INFORMATION DIV., G. S.

THE Russo-Japanese War has drawn attention to the situation of our colonial possessions in the Far East in case of an aggression on the part of Japan. It was even ascertained, too late, that we had been very near to suffering this aggression and that the day after Fashoda Japan had prepared a project for the invasion of Tonkin as well as for landing in Manchuria and in Korea.

Only the expansion of the Russians in the Far East was made with a force superior to ours; moreover, Manchuria was attached to the heat of the Russian Empire by a railroad whose returns were increasing every day. The Japanese then turned toward the more immediate danger and hastened to attack the Russians before their installation on Manchuria should become strong enough to diminish their chances of success.

*The French bar of Japanese aggression in the Far East furnishes the text upon which the author bases a consideration of the military resources of France in Indo-China—*Translated.*

They now need time to direct their success, to organize their new territories and to reestablish their finances. Moreover, our *"entente cordial,"* with their faithful and indispensable ally, England, is a pledge of security for us. We can then be reassured for the moment as to the fate of Indo-China; but we must not for that reason forget the warning of Fashoda, nor even the warning of the attack of Port Arthur. Our duty is to profit by these hours of peace and tranquillity to complete the defensive organization of our colonies in the Far East.

The most important side of this organization is at the same time the most difficult to realize. This is the protection of that long line of coast which extends from South China to Siam and upon which abound points of debarkation. Our Far Eastern naval division would be in a very bad position opposed to the superior Japanese squadron in proximity to these arsenals and having at its disposal that admirable naval base formed by the islands of Formosa and the Pascadores, upon which Admiral Courbet so proudly planted the French flag and which we had the weakness to cede to China by the Treaty of Tientsin (June 9, 1885). Alas! the Japanese well understood the exceptional importance of these islands in arrogating them to themselves by the Treaty of Shimonoseki after war with the Chinese in 1895. We must then concentrate all our efforts to increasing our naval forces in the Far East, and if through necessity our cruisers and battleships can only be sent there in limited numbers we can at least augment the number of our torpedo boats and submarines, perfect the arsenal of Saigon, create another at Tonkin in the Bay of Along, already recognized by Courbet, who regarded it as an excellent situation to screen a military port.

Something has indeed been done along these lines; thus it is that the *Foudre* has transported some submarines to Indo-China and a dry-dock has been added to the arsenal at Saigon. But this is only a beginning and far from lulling oneself to sleep over the task accomplished it must be completed. We have already had a program for the creation and perfecting of points of support for the fleet. The presence of a Pelleton in the Ministry of War has sufficed to so retard this program in its execution that at the present hour it is far from completed. Well! It is obligatory to complete this program, especially in that which concerns Indo-China and to hasten the execution of it. In the meantime it seems that the entire defense of our Indo-Chinese Empire should reduce itself to that of the two deltas of Tonkin and Cochin-China. There, at least, we have troops in sufficient number to resist any European power whatsoever.

As to Japan, it is more difficult to state; that will depend upon the liberty of movement enjoyed by our home squadrons to take themselves to the Pacific. In any case, these questions are seriously studied and it is not without reason that the government has sent General Voyron, a member of the superior council of war, and one of the most prominent generals of our colonial army, to inspect our troops in Indo-China.

The attention of General Voyron had had to concern itself not only with the degree of instruction and training of our troops, but also upon the means necessary to apply in all that concerns the value of our military organization in Indo-China.

At present we support in Cochin-China, in Anam and in Tonkin, under the group name of Indo-China, an effective force superior to that of a French army corps. The headquarters is established at Hanoi. There under the general commander-in-chief of the troops of Indo-China operate a complete staff, and the directions of service for the artillery, the sanitary service, the administration, backed up by the colonial commissar-

iat; in a word, an organization analogous to that of the territory of an army corps. Morever, there is geographical service performed by officers of the colonial army who have served a tour in the geographical service of the army, and by officers having belonged to this latter service and placed at the disposition of the Minister of the Colonies.

The organization is then completed, as it must be in a new country, where the arrangement of a plan is as indispensable for military operations as for the execution of public works.

The troops are of three kinds:

1st.—French colonial troops; these are the regiments of colonial infantry and artillery.

2d.—Native colonial troops with French officers (skeleton of fourteen French per company); these are the Tonkinese and Anam Rifles.

3d.—Special troops not belonging to the colonial army, and detached by the Minister of War.

These troops are divided into two divisions.

The first division has its headquarters at Hanoi; it is divided into two brigades.

The first brigade comprises: the Ninth Regiment of Colonial Infantry and the First and Fourth Regiments of Tonkinese Rifles.

The second brigade comprises: the Tenth Regiment of Colonial Infantry, the Second and Third Regiments of Tonkinese Rifles.

The Fourth Regiment of Artillery, of eight batteries; the Sixth mixed (half mounted and half dismounted) company of laborers and artificers; a territorial subdivision of artillery, a colonial disciplinary platoon.

Moreover, to this division are attached the home troops placed at the disposition of the colony; they comprise:

Two battalions of the First Foreign Regiment; two battalions of the Second Foreign Regiment; one squadron of cavalry; one detachment of the Seventh Engineers; one company of gendarmes.

The second division has its headquarters at Saigon; it is likewise divided into two brigades, numbered Third and Fourth.

The third brigade comprises: the Eleventh Regiment of Colonial Infantry; the First Regiment of Anam Rifles; the Fifth Regiment of Artillery of ten batteries; the Seventh mixed company of laborers; a territorial subdivision of artillery.

The fourth brigade comprises: the Twelfth Regiment of Colonial Infantry; the Second Regiment of Anam Rifles; the battalion of Cambodial Rifles.

As is seen, the proportion of the native element reaches nearly two-thirds of the infantry. What would be their attitude before an army of the same race, no longer simply bands of pirates? This is a great question. It would perhaps be prudent to transplant a little the native troops of our different colonies. Outside of the question of money, would this be possible?

In Tonkin, outside of a few posts, the greater part of these troops are in cantonments in the delta. That is, morever, the essential point of the colony with regard to its defense, likewise it is in the delta that General Voyron organized maneuvers for the first division toward the middle of last December. While awaiting the return of General Voyron we may say, after careful inquiry, that he has been entirely satisfied with the execution of these maneuvers, which terminated toward the Seven Pagodas. The bearing of the troops at the maneuvers, and their endurance, were excellent. Moreover, the native authorities rendered

zealous and effective assistance for the numerous passages of rivers and the quartering of the troops. Upon this last point a local journal the *Haiphong Courier,* gives a very interesting detail. "It is curious to note," writes our contemporary, "how much the natives prefer to give hospitality in their villages to the European soldiers rather than to their own race, from whom they dread a thousand vexations which our good troops spare them."

There is a certificate of good character which does honor to our colonial army. We trust that their example will be followed by all our functionaries; so that they will teach the natives to prefer French administration to every other. When such a sentiment shall be well fixed in their slow Asiatic brains, we shall be able, assured of their loyalty, to face more easily every eventuality. JEAN MARTEL.

THE USE OF THE HELIOGRAPH IN THE TRANSMISSION OF INFORMATION IN THE GERMAN COLONIAL TROOPS.*

(*Translated from the International Revue for the M. I. D. Supplement No.* 80.)

BY CAPTAIN SAMUEL SEAY, JR., TWENTY-SECOND INFANTRY.

IT is not a new invention and its development that we would speak of here—visual signaling, the transmission of information to a distance by utilizing the sun's rays—are now very old, almost as old as the history of man.

As far back as our historical knowledge extends we find visual signaling under one form or another; at one time columns of smoke are used; at another, signals visible afar, and flags; or else luminous signals at night. It was thus that the news of the fall of Troy was transmitted in one night, by means of beacon lights, from the coast of Asia to Argos, and in the time of the Persian Wars the Greeks possessed a complete system of signaling which enabled one to make out certain letters by means of torches or flags and by their different positions relative to one another.

Through signals, by means of flags, the result of the Battle of Kysikos was announced, and Hannibal and Cæsar also made use of visual signaling to great distances. Cæsar relates that the Gauls communicated with one another at long distances by cries or by horn blasts, and in all the Roman Empire we find a visual signal service perfectly organized, which enabled important orders to be transmitted from Rome to the most dis-

*The German military conditions in southwest Africa, so far as I know, are little understood by us; this paper gives a hint of what is being done. It also suggests, what I believe to be the fact, that we are letting slip to an unwarranted extent the visual communications of our Army, which, in my opinion, are of growing value as an auxiliary with the increasing reliance now being placed upon electrical methods and the wireless. I think, therefore, that the article might well be published as a timely reminder of the importance of visual signalling.

We believe, and I think justly, in the United States, that our acetylene lantern and our type of heliograph with two tripods. which cuts off the beam of light rather than throws it aside by action of the instrument itself, is superior to the heliograph herein described; and for my own part, I place great reliance upon the acetylene lantern, which rendered excellent service under my direction in the Philippine Islands, communicating between Cebu and Bohol when no cables were available. Practically, of course, its use is confined to night signaling, that is, for approximately half the time, whereas the heliograph is frequently useless. The intense light given by the German instrument may render it useful on dark days, but it is probably too complicated, delicate and cumbersome to be generally useful in the field. (Note by Lieut.-Col. George P. Scriven, Signal Corps, U. S. A.)

tant points of the Empire. During the Middle Ages and in modern times telegraphy without wires (*not* wireless telegraphy.—*Translator.*) was more and more developed, and when at the beginning of the seventeenth century the telescope was invented and enabled one to distinguish signals far away, the use of visual signaling become general in war, and especially in navigation.

In 1789 the Chappe brothers invented visual signaling by means of movable arms, which Napoleon made use of in his great campaigns. Later there was established in France, then in England, likewise in Prussia in 1832, a network of long lines of communication, over which was employed this system of visual telegraphy. The signals were made by means of the relative positions of the three large movable arms suitable for a tall mast, and which at night were lighted by lamps of different colors.

In 1820 the celebrated German mathematician, Gauss, invented the "heliotrope," which he employed in his measurements in Hanover, creating by a series of flashes of sunlight a system of signals which could be distinguished at 100 kilometers, if the weather was suitable, the sky clear, and there was sun. This instrument is used to-day in earth measurements, to designate a fixed point to a distant observer by means of a mirror which receives the sun's rays, and reflects them in the direction of the observer. Upon the same principle the "heliograph" is constructed. Then the Englishman, Mance, accomplished another step by making use of a mirror rotating in the hand to produce by reflection of the sun's rays luminous impressions of varying duration far away. By suitable groupings of luminous flashes, or better still, by obscurations of varying duration between flashes, which is accomplished by means of a simple variation of the inclination of the mirror, an alphabet of flashes and breaks is formed. This heliograph system of Mance has given at times in England, in India and South Africa almost always very good results; with a bright sun one can signal sixty and even 100 kilometers away.

In spite of all this progress visual signaling had to yield the place to the electric telegraph in the second half of the last century, and it was almost forgotton in Germany. Its certainty in transmission, its wonderful rapidity, its absolute independence of weather and light, resulted in the introduction of the electric telegraph almost everywhere, and Mance's heliograph continued in partial use only in several countries poor in communications, and in the colonies. Its defects are evident; fog, smoke, rain and snow may reduce to a minimum the possibility of its use; besides, it requires a country with elevations, for the stations must be visible from each other; but then the enemy, if in good position, is not shut out from profiting by the signals. On the other hand the system can be installed without elaborate preparations, communications can be maintained without fear lest the enemy or a hostile population should destroy the lines, and it matters little if the territory between the stations is held by the enemy. In visual signaling there are nothing but stations; no material bonds, no wires which a revolted population can cut. At present there is only one installation of electric telegraph in our Protectorate, along the railroad from Swakopmund to Windhoek; and when this was destroyed in the insurrections (at present it is again working) signaling could be done only with the visual telegraph. It served likewise when Okahandja was besieged. Thus it is being more and more established in our Protectorate. At present there are several permanent stations; a line goes from Karibib, along the railroad toward the north, via Omamuru to Ontjo, over a stretch of 200 kilometers another

line runs from Windhoek toward the south, via Reloboth Gibeon to Keetmanshoop, a distance of 500 kilometers.

But it is not only from prominent stations that the heliograph can be employed. The apparatus is easily transported, and can be carried everywhere and set to working by troops. Thus, the Glasenapp Division was able to send communications by heliograph at Okahandja after the fight at Oviko-Korero, when it could occupy a high mountain after the enemy had withdrawn. After a conference with Captain Gross of the balloon battalion, held before the Military Society of Berlin, there was an inspection of the English signalmen by the German Army in the autumn of 1899, which gave an impulse to the renewed study of the utility of visual signaling from the military point of view of the German Army after long years of neglect. Trials were made with the apparatus furnished by the British Government, and the result of a period of nearly ten years' experience was that this English appartus is practical and gives good results in India and South Africa, but that it does not answer for long distances in our climate, where the sky is often overcast. Whereas, with bright sunlight one can signal 100 kilometers with the heliograph, the lamp of the calcium light, which was used on cloudy days, was efficient only to a distance of eight kilometers.

In Germany they worked unceasingly at perfecting this signal apparatus, and finally succeeded, with the assistance of the Tests Section of the Troops of Communications, the first battalion of the Telegraphers, and the Cavalry School of Telegraphy, in completing an apparatus which is quite superior to the English instrument, and provides the army in our climate also, with an instrument which can be of great utility in the service of cavalry reconnaissance.

Since in our country the sun does not shine at times during the day, it was necessary to find a source of intense light which could replace the sun. At first, use was made of the Drummond calcium light, but it was not easy to produce it and to transport it. Finally the chemist, Dr. Knofler, found that a flame of acetylene gas and oxygen in proper proportions produced a much greater heat than the oxy-hydrogen blowpipe, used until then. With this flame, scales of thorium can be heated white, and produce then a light of 500 standard candles. If the luminous rays given out by this incandescent body be concentrated by means of lenses like those used in light houses [*i. e.*, Fresnel lenses.—*Translator*] so that they are sent out parallel and thrown to a distance, the intensity of the light may be run up to 80,000 candle-power, and thus a source of light of really extraordinary intensity be obtained.

Upon this principle the field signal light of the German signal instrument was constructed; and distinction must be made between the heliograph as used in South Africa, where there are usually cloudless skies and bright sunlight, and the instrument which has been tried in Germany at the maneuvers, and which has given such good results there. The first of these devices consists of a tripod carrying a mirror rotating by means of a screw combination, so that the sun's rays striking it will be reflected in a given direction toward another observer whose station is known. The mirror is provided with an operating handle which can be dropped by the hand like the Morse telegraph instrument. Pressing this handle causes the mirror to rotate slightly, which shifts the direction of the luminous rays, and by dropping this lever a longer or shorter time an alphabet of flashes and breaks is formed, as in the Morse instrument, but determined hereby the longer or shorter length of time they are seen by the distant observer.

In the instrument for signaling by artificial light the movable top

of the lamp carries a system of lenses, the incandescent substance, and escape outlets for the gases, which are brought to the lamp through rubber pipes. This lamp is mounted for rotation on a base. It is geared rotatively to a heliograph and a telescope in such a way that the optical axis of all three are exactly parallel. It is thus possible to make use of the heliograph if there is sunlight, and of the lamp if a cloud should suddenly obscure it. The production of gases by a method adapted to campaigning has been devised. Acetylene gas is produced by carbide of calcium and water in a generator; oxygen gas is carried in a compressed state in steel retorts; a small tank strapped to the saddle of a horse holds enough oxygen for several hours.

With the aid of this device signals can be sent fifty kilometers, even when it is cloudy; as a mean distance for war in campaign, from twelve to fifteen kilometers is assured.

Optical telegraphy may be successfully used to establish communication between the army of observation on land and the navy acting in concert with it, unless one makes use of wireless telegraphy, which is preferable; also to temporarily replace broken telegraph lines; again, to keep in touch with one another regiments which are separated by impassable country; notably in fortress warfare; and finally, in reconnaissance work for the transmision of urgent reports of officer's patrols or of cavalry.

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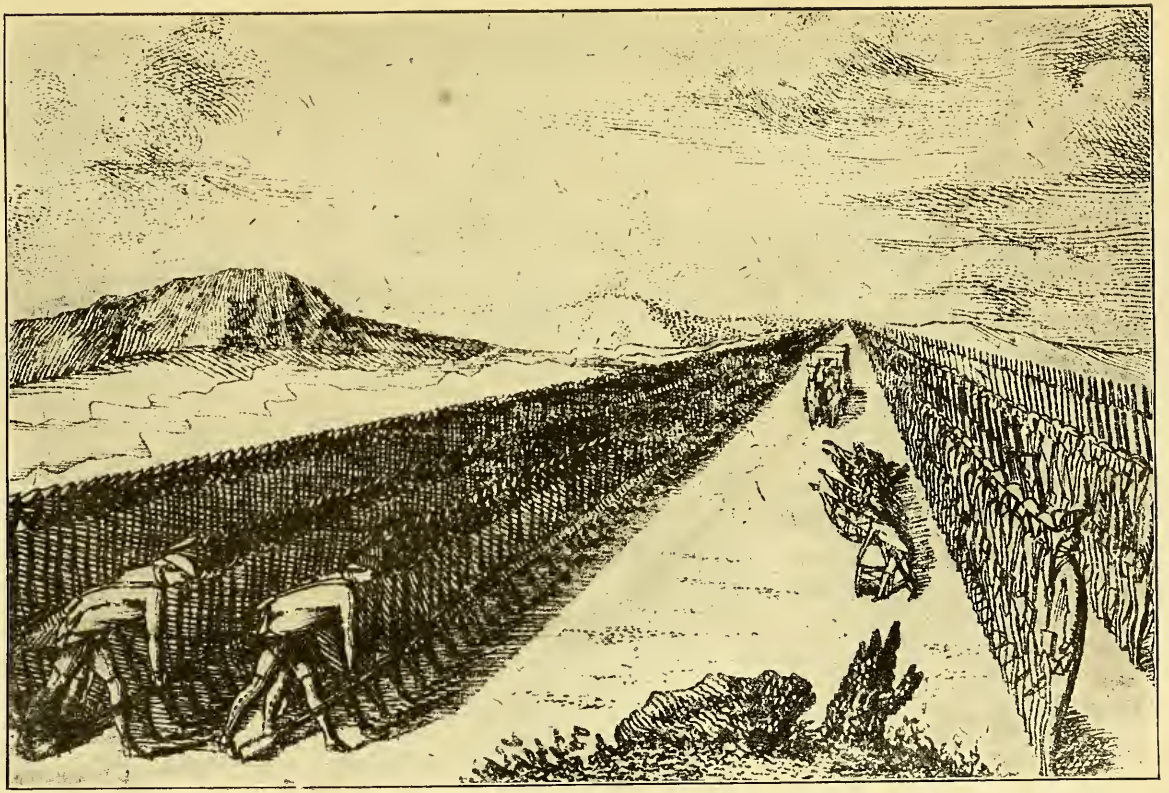

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BURGOYNE'S SURRENDER.
(From an Old Print.)

See next page.

MILITARY MISCELLANY

Burgoyne's Surrender.

DES NEUEROFEUTEN BILDER SAAL, vol. XVII, published in Nurnberg, Germany, in 1782, contains an article on the "English-American War," covering the period from 1776 to 1780. The following is a translation of the account of the capitulation of Burgoyne's Army to Gates, and a reproduction of the quaint etching which illustrates the text (see page 275):

"Upon the day after the terms of capitulation had been agreed upon, and the documents signed and exchanged, the whole army, at the appointed hour, marched out from camp with bands playing and colors flying to the plain designated for the surrender. At the same time the whole American Army was ordered out by General Gates and drawn up opposite their late foes, and the order given for them to 'about face' and remain in that position until the surrender was completed. Even the twenty-four companies of Grenadiers, who were paraded at the same time and place, had to obey the same order and lower their colors, so that the Royal Troops might not have any witnesses to this scene of their humiliation. Even General Gates did not wish to be a witness to this sad scene, and closed the curtain of his carriage until all was over; which extraordinary action and noble consideration gained for him the esteem and admiration of the whole English Army."—*Pennsylvania Magazine of History.*

A Memory of Antietam

IN a recent letter to the Editor, Colonel Calef, U. S. A., writes: "This (September 17, 1906) is forty-third anniversary of 'Antietam' and how well I recall every event of that day. Just at this hour, 10 A. M., Capt. 'Steve' Weed, Randol and I walked up to the top of the hill under, or behind, which our batteries were parked awaiting orders. From this point we saw the Irish Brigade 'go in,' in two beautiful lines, the National and Irish colors side by side. The sun was at just the right height to bring out strongly the green of Erin, as well as the red of the 'Old Glory,' and when the front line reached the danger zone we saw the colors go down again and again, but instantly caught up, showing that at each fall a color-bearer was left behind, killed or wounded. 'Twas a thrilling sight and so absorbed were we watching the progress of the battle that we were insensible of the fact that we had become the target for a battery opposite to us. Rifle projectiles had been promiscuous all the morning, and it was

only when a shot plowed up the turf under Weed's left foot that he remarked, in his quiet way, 'Well, gentlemen, I guess they have our range close enough, we had better return to our batteries, where we belong.' But it was reserved for a sharpshooter at Devil's Den to take the life of one of the bravest of soldiers."

French Army and Navy Artists

THE French Army and Navy are co-operating in establishing a salon for the exhibition of works in painting and sculpture by the officers. This will not necessarily be a salon of amateurs, for, as the *Figaro* points out, the French Army and Navy contain a not inconsiderable group of artists who contribute each year to the regular Paris salons. Among these may be mentioned M. Doigneau, pupil of Jules Lefebvre, and Tony Robert-Fleury, whose "Ronde des Petites Bigoudennes" attracted much attention at the Champs-Élysées salon last year; and Capt. Étienne Buffet, pupil of Franck Bail, whose picture "La Repasseuse," in the same salon, was also a success. Meissonier and Édouard Detaille, it will be remembered, were also officers in the French Army.

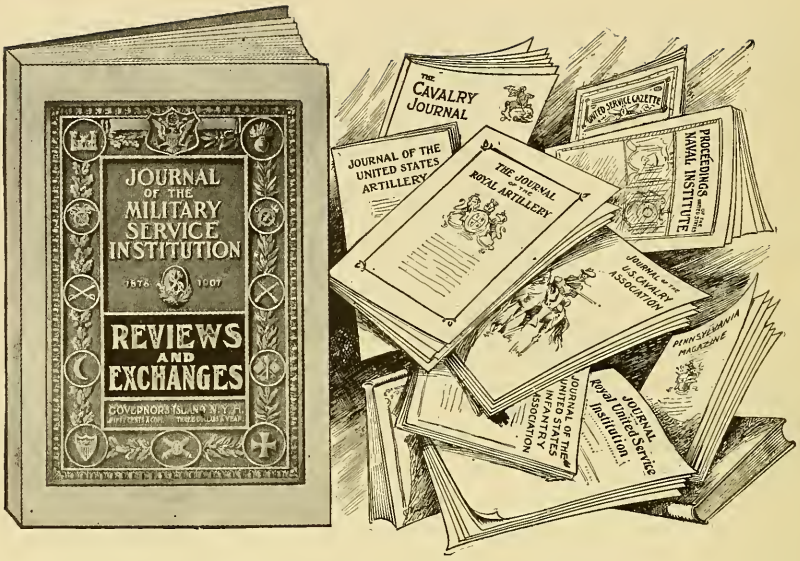
"As Thrifty as a Soldier"

THE American soldier does not, by any means, waste all his pay in riotous living. Last year 54,266 enlisted men saved and deposited with the paymaster's department $1,495,228. This is a very respectable sum and represents about twelve per cent. of the total pay of all the enlisted men for that period. If every enlisted man made a deposit the average saving for the year was over $27.50. The law providing for deposits by soldiers went into effect July 1, 1872. Since then the total deposits have amounted to $27,789,553, and discharged soldiers have received $1,582,993 in interest on deposits withdrawn. There remains on deposit with the paymaster general the sum of $2,911,737.

These figures show that this practice of saving is no new thing with the American soldier. He has been doing the same thing ever since he had the opportunity—nearly a generation. If this habit keeps on growing, as apparently it is doing, we shall have to say, in addition to "as brave as an American soldier," "as frugal as an American soldier."—*Chicago Inter-Ocean.*

Horses Carnivorous

IS the horse ever a carnivorous animal? A few years ago an English periodical put this question to its readers. A German journalist, Eduard Mygind, writes that he followed that discussion and was wroth at the very idea of asking such a foolish question. But he has since changed his mind. During an expedition in the Sudan he noticed that the horses used for the transport of meat looked smoother, brighter, more healthy than the others, and was astounded when one of the Arab drivers assured him that he fed these horses every morning scraps of meat. Subsequently, Herr Mygind noticed in Constantinople that butchers' horses usually were sleeker than other horses. The butchers, on being interrogated, vehemently denied feeding them meat, but at last he came upon one who explained to him that this denial was due to the fact that in putting such food before horses they were violating religious precepts, but that as a matter of fact, the practice was not infrequent. Vegetarians, however, need feel no alarm, for it is undeniable that, while an occasional scrap of meat may make a horse more vivacious, it also makes him more vicious.



Recollections of George Washington.*

WHATEVER information may be obtained, at any time, concerning the life and opinions of George Washington, is always of interest to an American, this being the term he applied to citizens of the United States in order to differentiate them from Canadians, Mexicans or others of the then Spanish and Portuguese Colonies in North or South America.

Sometimes so-called biographies have been published which have failed to depict the true Washington, and once there were forged public letters, issued in book form, which purported to have been written by him.

His letters on public affairs and to his family, and on his own private business concerns, give a better idea, probably, of Washington as he was than the most fulsome biography.

The latest contribution in this direction is the publication by Doubleday, Page and Company, entitled "Letters and Recollections of George Washington, being letters to Tobias Lear and others between 1790 and 1799, with a diary of Washington's last days."

These are prefaced by an introduction from Tobias Lear's granddaughter, Mrs. Louisa Lear Eyre.

Tobias Lear himself was born in Portsmouth, N. H., September 19, 1762, and graduated at Harvard in 1783, and in 1785 became a tutor in Washington's family, to Mrs. Washington's children by her first marriage. For sixteen years afterward, until Washington's decease, in December, 1799, Lear sustained the most intimate relations to his family, having married, for his third wife, a niece of Mrs. Washington.

When Washington became General-in-Chief of the Army of the U. S., under President John Adams, Lear was appointed military secretary,

Letters and Recollections of George Washington—Being Letters to Tobias Lear and Others, 1790-99. New York. Doubleday, Page & Co., 1906.

with rank of lieutenant-colonel, July 1, 1799, and served until May 14, 1800.

He was afterward Consul General to Santo Domingo, and then to Algiers, and later an accountant in the War Department, and died at Washington in 1816.

The letters published in these "Letters and Recollections," may nearly all be found in President Jared Sparks' "Writings of Washington," or in W. K. Bixby's privately printed collections, or in the letters from Washington to William Pearce in the Long Island Historical Society publications, or in the Washington papers in the Library of Congress.

Major Lear's account of the last illness and last words of Washington is very interesting.

The book is illustrated by several artotypes, including one of a minature of Washington, given to Lear. The first of the series of letters is dated Philadelphia, September 5, 1790, from Washington to Major Lear, announcing his arrival from New York in Philadelphia in consequence of the capitol of the United States having been removed to the latter city.

The corporation of the City of Philadelphia had selected the residence of Robert Morris for the Executive Mansion.

This letter shows the attention Washington paid to even the smallest details of his business affairs, for he discussed the accommodations of the house, and where every member of the family should be quartered, and how the coachman and postilions should be cared for.

From this discussion he proceeded to give instructions how his coach and harness at Mount Vernon should be put in order and then what servants and washerwomen should be brought on to Philadelphia, and then as to the comparative merits of two persons as stewards and the control one of them had over his cook in the planning of "dinners," and concluded they would be "more tasty" if the other man should be employed.

Washington's letters to Lear and to others with whom he had business dealings show that while he was strictly just, he nevertheless insisted on prompt payments of obligations due.

He was, probably, in 1795, while President of the United States, the wealthiest citizen and largest land holder. At that time he owned nearly 33,000 unimproved acres on the Ohio and Great Kanhawa Rivers, and two large tracts in Kentucky, besides other lands in Pennsylvania and Virginia.

In one of his letters, in August, 1798, he informed a friend that he weighed 210 pounds, and wanted to buy a riding horse suitable to his weight, and would prefer "a perfect white."

The last letter of the series is dated December 1, 1799, Washington having died of pneumonia at Mount Vernon on the 14th of that month.

The volume of letters would be more interesting if the publishers had not, with inexcusable negligence, omitted an index either of names or subjects. As it is, the reader, unless noting a fact contained in a letter, or allusion to a person, cannot again readily find it, and, as a consequence, the book has no value as one of reference.

Asa Bird Gardiner.

Riot Duty—Law and Customs.*

THIS work is a compilation of personal reflections upon military matters and studies of cases of military law. The author was hardly fair to himself to make the title so narrow. Military efficiency might fairly be the theme under which the chapters on Preparedness, Assembly, Orders, Reports, Conduct of Officers, Movement of Troops, Their Disposal, Subsistence, Pay and Tactical Use would find places.

The colonel has brought together many valuable references to cases in which the law of the land has been declared to be controling in the discharge of military duty. Civil Courts have been appealed to in very many instances where the militia were concerned.

The fact that the militia is a distinct part of the civil government, as distinguished from an army, created for, and acting as a war factor, explains the existence of these cases. Indeed, the author lays down the law that the Regular Army cannot be assigned to duty in aid of the civil authorities. This, however, militates somewhat against the statutes quoted, as well as the Senate Document 209, of the Fifty-seventh Congress, "Federal Aid in Domestic Disturbances," and really turns upon the question who is the head civil authority.

No law has yet been pointed out, by which either the use of the Federal troops to suppress insurrection, on the request of the governor of a State, or the use of the militia through such a special agency, or even as an aid to the *posse comitatus* in any State, would be held not to be in aid of the civil authorities.

A new phase not touched upon will be the use of troops in the colonial possessions of the United States.

Confusion has resulted in times gone by, when troops were ordered to report in aid of the civil authorities, concerning the actual commanding officer. The author makes a distinction between regulars and militia, quoting the regulation that Federal troops cannot be directed to act under the orders of any civil officer, p. 150, while at p. 194, he says, "Tactics in aid of civil authorities are necessarily restricted by the control which a sheriff, mayor or other civil officer exercises over the military officer." However, since the days of Colonel Stevens, when he refused to parade his regiment at the request of the Mayor of New York, until ball cartridge was issued, there has been no doubt that the military commander is the one in command when the military are required to act, and that the military officer is the judge of how to act, whether he be a regular or not. C. E. L.

Fighting the Polar Ice.†

UNDER the title of "Fighting the Polar Ice," Mr. Anthony Fiala presents in most readable form the experiences of the Ziegler Polar Exposition, of which he was the commander, and which set forth in the season of 1903.

The book is intensely interesting and presents modestly, though in vivid form, all the dangers of arctic travel which dissuade the timid

**The Law and Customs of Riot Duty.* By Byron L. Bargar, of the Ohio Bar. Published by the author 1907, pp. 284, index 40 pp.

†*Fighting the Polar Ice.* By Anthony Fiala. New York. Doubleday, Page & Company. 1907.

and offer fascinating allurement to the intrepid. Aside from the narrative, the work holds abundant information as to the organization and equipment for travel in excessively cold regions, useful to those who contemplate journeys in such latitudes.

The paper and printing are superb and the binding in keeping. The work is illustrated by reproductions of many phototgraps and drawings.

H. O. S. H.

Weights and Measures.*

IN a series of chapters treating with the historic and scientific sides of metrology and the metric system, Professor Hallock and Herbert T. Wade, in collaboration, have presented to the student and general reader a valuable addition to the subject. Of this, so much has already been written of a highly technical order, that the aim of the authors, so well performed, to supply in simple and non-technical language a résumé of the systems of weights and measures, their evolution and the metric system, will undoubtedly be appreciated by those especially interested. Beginning with a review of the science of metrology, in which the reader finds grouped together the earliest known facts of the various standards, the origin of the metric system is introduced, and its development up to present time is comprehensively dealt with in a thorough manner. Data, in connection with the adoption of the system in certain parts of Europe and South America, and its introduction into the United States, are given, and several chapters are devoted to the advantages derived by its use in commerce, manufacturing and medicine. The International electric units are referred to, as well.

The appendix contains tables of conversion from common to metric measures, useful constants and equivalents. An index of the contents greatly facilitates as an aid to reference.

J. F. R.

A Staff-Officer's Scrap-Book. †

VOLUME ONE of this work was extensively reviewed in the May, 1906, issue of the JOURNAL.

In this volume, the author describes his observations from August, 1904, through the advance on Liao Yang, the battle at that point, from August 25th to September 6th, the desperate engagements about the coal mines at Yentai, and on the Shaho, through the month of October, and the life in the field till January.

At the end of the year he had the opportunity to visit Port Arthur, where he met General Nogi and saw the trenches and fortifications, which were the scenes of the severest contests. He returned to the coal mines, remaining a short time, and then left for Yokohama early in February.

*_Outlines of the Evolution of Weights and Measures and the Metric System._ Edited by William Hallock, Ph.D., Professor of Physics in Columbia University, C. N. Y., and Herbert T. Wade, editor for Physics and Applied Science, "The New International Encyclopædia." 300 pages, bound in cloth. New York and London: The Macmillan Company.

†_A Staff-Officer's Scrap-Book,_ during the Russo-Japanese War. By Sir Ian Hamilton, K.C.B. Published by Longman, Green & Co., New York. Vol. 2, pp. 364 and index pp. 23.

The charm of the author's work is his free and easy comment upon everything. The ease and grace of his descriptions of the lighter sides of the army life and of his entertainment and treatment by the generals and officers, added to a sympathetic and copious flow of observation of events, noted daily, *currente calamo,* make a volume of great interest. The author is both soldier and *bon camarade.*

He has taken pains to study the Japanese character and cult, and points out the social conflict inevitable in Japan, with the growth of the party intent upon killing Bushido.

He finds the Japanese soldier is bound up in his profession, indifferent to the personality of the divisional or regimental commander and revealing a remarkable impersonality as to everything; boastfulness is unknown, pride and self-satisfaction unbounded; fortitude and disdain of money are inseparable parts of his character. The author thinks that the precepts of Bushido do not take root in the domain of commerce.

The volume is well supplied with maps and descriptions.—C. E. L.

Book Notes.*

Edwin McMasters Stanton—The Autocrat, Emancipation and Reconstruction. By Frank Abial Flower. (Akron, Ohio.) The Saalfield Publishing Co., 1905.

This portly volume of 425 pages contains much interesting matter concerning the personal character and official life of the great War Minister. Many official reports and private letters, some of which have never before appeared in type, are utilized in an endeavor to enhance the fame of one of the leading figures of the Civil War. Not satisfied, however, with giving "to Cæsar the things that are Cæsar's" the author has not hesitated to attempt to deprive others—notably the Martyr President—of some of the honors to which they are in the opinion of the world justly entitled. In this futile effort the author has detracted from the value of the book as an impartial, and unprejudiced record of the period. On this account the student should read and digest its contents *cum grano salis.*

The Army of the Potomac from 1861 *to* 1863. By Samuel Livingston French. New York Publishing Society, of New York, 1906.

The preface states that the book supplies "an inside history of the Army of the Potomac and its leaders as told in the official despatches, reports and secret correspondence" during the period noted. An examination confirms the assertion but fails to explain why the history of that army is not completed to the close of the Civil War. The short comings of McClellan, Burnside, Hooker, Meade and Halleck are set forth more or less logically by documentary evidence: the operations and misfortunes of General Pope are treated in a friendly way and the Government is bitterly arraigned for its treatment of a faithful public servant. As a compilation of Civil War papers, this publication has some value.

History of the "Bucktail" or Kane Rifle Regiment of the Pennsylvania Reserve Corps. By O. R. H. Thomson and W. H. Rauch. (Phila.) Electric Printing Co., 1906.

This elaborate regimental history cannot fail to be of the greatest interest to the survivors of the Civil War, and of some value to the coming

*These notices are not intended to take the place of more extended reviews later.

historian of the great conflict, more for its wealth of detail—personal and official—of one of the most distinguished units of a famous brigade of the Union Army. It has had the benefit of editorial supervision of a trained literary expert in collaboration with the Regimental Historian, and the record is chronologically arranged with a chapter to each campaign of the Army of the Potomac in which "The Bucktails" participated. An index of names and places together with a fairly complete directory—names and addresses—of surviving members of the organization, add to the usefulness of the volume for quick reference.

Manual for Non-commissioned Officers of a Troop of Cavalry in Security and Information.. By Lieut. (now Captain) John J. Boniface, 4th (now 2d) Cavalry. (Kansas City.) Hudson Kimberly Pub. Co., 1904.

The increasing number of portable and inexpensive manuals containing practical instruction upon special duties devolving upon commanders of detachments or small bodies of troops, is creditable alike to authors and publishers. No sergeant or corporal of cavalry should be without this little book: and it might well be to the advantage of each troop commander to issue a copy as "company property" at his own expense to each of his non-commissioned officers not already provided. Anything tending to increase the efficiency of the men who wear chevrons should not be overlooked by those charged with the interests of the Service.

Practical Instruction in Security and Information of Non-commissioned Officers of Infantry. By Lieut. E. K. Massee, 7th U. S. Infantry. (Kansas City.) Franklin Hudson Pub. Co., 1907.

This is a similar work to that above referred to for non-com. officers of cavalry, but more elaborate and full of detail while equally portable for the pocket. Much of it might be studied with benefit by others than infantry soldiers. The arrangement of the contents is excellent, the language clear and the diagrams to the point; an excellent folding map of Fort Leavenworth and vicinity, is bound up with this little volume.

Early in September A. C. McClurg & Co. will issue a work in three volumes on "The Campaign of Santiago de Cuba," by Col. H. H. Sargent (Capt. Second Cavalry). It is a full strategic history of the campaign, with maps; the result of six years' study of the operations of 1898. An exhaustive review of this work by Gen. Charles King will appear in the JOURNAL MILITARY SERVICE INSTITUTION for November.—T. F. R.

Received for Library and Review.

The Principles of Success in War. By Major C. Ross, D. S. O. The Norfolk Regiment, Aldershot, Eng.

Information on the Battlefield. By Bvt. Colonel J. E. Copper, C. B., Royal Engineers, Aldershot, Eng.

The Citizen's Part in Government. By Elihu Root, Secretary of State. (New York.) Charles Scribner's Sons, 1907.

Instructions for the Infantry Private of The National Guard. By Captain John W. Norwood, 1st Infantry, N. C. N. G. (New York.) Arms and the Man Publishing Co., 1907.

Manual for the Pay Department, revised to include May 7, 1907. (Washington.) Government Printing Office, 1907.

Is the United States Prepared for War? By Frederick Louis Huidekoper, with an Introduction by Hon. William H. Taft, Secretary of War. (Reprint from *N. A. Review,* 1907.)

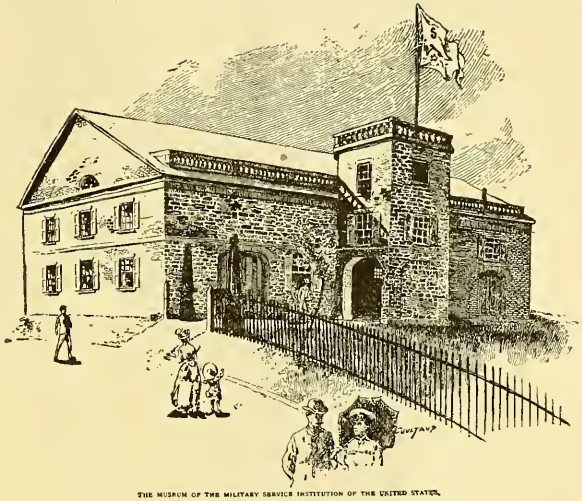
Leading American Soldiers. By R. M. Johnston, M. A. (New York.) Henry Holt & Co., 1907.

Society of the Army of the Potomac—Thirty-seventh Annual Reunion—Report of Proceedings, Washington, 1907.

A Story of Vicksburg and Jackson, "Lest We Forget." By Edwin L. Hobart, Company D, 28th Illinois, 1907.

Our Exchanges.

Army and Navy Journal (to date).
Army Service Quarterly (London) (July).
Army and Navy Chronicle (London) (July).
Artilleristische Monatshefte (July).
Artilleri-Tidskrift (to date).
Canadian Military Institute (to date).
Journal of the Association of Military Surgeons (to date).
Journal of the Royal Artillery (July).
Journal of the United States Artillery (to date).
Journal of the U. S. Cavalry Association (to date).
Journal of the U. S. Infantry Association (to date).
Journal of the Royal U. S. Institution (July).
La Revue Technique (todate).
La Belgique Militaire (to date).
Our State Army and Navy (Penna.) (to date).
Proceedings of the U. S. Naval Institute (to date).
Review of Reviews (August).
Revista di Artiglieria e Genio (to date).
Revista Del Ejercito Y Marina (to date).
Revue de l'Armée Belge (to date).
Revue Militaire (to date).
Revue Artillerie (to date).
Royal Engineers' Journal (July).
The Cavalry Journal (London) (July)
The Seventh Regiment Gazette (July).
The Texas N. G. Journal (to date).
United Service Gazette (London) (to date).
United Service Magazine (London) (to date).



THE MUSEUM OF THE MILITARY SERVICE INSTITUTION OF THE UNITED STATES,
GOVERNOR'S ISLAND, NEW YORK HARBOR

Editor's Bulletin.

To Fill Vacancy of President of Institution.

A **President** (to succeed the late General Ruger) will be voted for by the Members of the Military Service Institution. At a meeting of the Executive Council, July 10, 1907, the following nominations were approved: *President,* Major-Gen. A. S. Webb (late) U.S.A.; *Alternates,* Lieut.-Gen. A. MacArthur, Maj.-Gen. E. S. Otis. General Webb, one of the Resident Vice Presidents and one of the oldest members of the Institution, is widely known as a distinguished Civil War commander and for many years thereafter President of the College of the City of New York.

Resident Vice-President.

A Resident Vice-President (to succeed General Wade) was elected at the same meeting; Maj.-Gen. Fred D. Grant, U. S. A., has accepted the office.

Election of Treasurer.

A Treasurer (to succeed Lieut.-Col. W. H. Miller, whose station has been changed), was elected by the Council, June 12, 1907, and Col. John G. D. Knight, Corps of Engineers, has consented to serve in that capacity.

Accessions to Membership.

Accessions to Membership in the Institution (revised), since last publication of a list, are as follows:

(*Associate Members thus* *)

*Abbington, E. H., major, Ark. N. G.
*Abbington, W. H., captain, Ark. N. G.
Allen, G. M., lieut., 19th Infantry.
Allison, J. B., captain, 7th Infantry.
*Andrews, R. B., captain, Ark. N. G.
*Archbold, J., Jr., Lieut. Col., A. D. C. Pa. N. G.
Ayers, W. J., lieut., Philippine Scouts.
*Baird, F. M., lieutenant, Dumbartonshire Rifles.
Ballin, A., lieutenant, Philippine Scouts.
Barlow, M. T., lieutenant, Philippine Scouts.
Barry, A. W., lieutenant, Philippine Scouts.
*Becker, F. W., N. G. N. Y.
*Barry, J. I., lieutenant, N. G. N. Y.
*Berry, L. P., Jr., captain, Ark. N. G.
Bloom, J. E., captain, Sub. Department.
*Boughan, B. A., lieutenant, N. G. N. Y.
*Boyd, W. A., lieutenant, N. G. N. Y.
*Broom, N. H., lieutenant-colonel, R. I. M.
Burch, B. L., lieutenant, 14th Cavalry.
*Caldwell, J. S., captain, S. C. Infantry.
*Carroll, B. H., Jr., lieutenant-colonel, T. N. G.
Cass, L. W., lieutenant, 12th Cavalry.
*Chester, S. B., barrister at law, London.
*Collins, T. D., major, T. N. G.
Collins, R. W., lieutenant, A. C.
*Compere, E. L., lieutenant, Ark. N. G.
Conger, A. L., captain, 29th Infantry.
Currie, D. H., lieutenant, A. C.
Davis, B., lieutenant, 6th Infantry.
*Davis, E. L., major, Ark. N. G.
*Devine, A. E., colonel, T. N. G.
Dixon, H. B., captain, Pay Department.
Farrow, E. E., lieutenant, Philippine Scouts.
Finlayson, J. L., lieutenant, Philippine Scouts.
Fletcher, A. S., lieutenant, Philippine Scouts.
*Fonesca, H. R., da, Secretary of War, Brazil.
*Fowler, G. R., captain, T. N. G.
Gambril, W. G., major, Pay Department.
*Gammon, J. L., captain, Texas N. G.
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*Gronberry, B. F., captain, Ark. N. G.
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*Hanna, W. A., lieutenant, Ark. N. G.
*Hatfield, H. R., major, Pa. N. G.

*Hecht, S., major, Ark. N. G.
*Hubbard, T. H., brevet brigadier-general, U. S. V.
*Hudson, W. C., major, Ark. N. G.
*Hulen, J. A., brigadier-general, T. N. G.
*Humphrey, L. G., captain, Ark. N. G.
Ireland, M. L., lieutenant, Ordnance Department.
*Jarvis, J. M., colonel, N. G. N. Y.
*Jerome, L. H., late lieutenant, 2d Cavalry.
*Jett, E. B., major, Ark. N. G.
Johnson, F. C., captain, 2d Cavalry.
*Johnson, J. E., brevet-major, U. S. Volunteers.
*Jones, W. N., captain, Ark. N. G.
*Keating, R. B., captain, Ark. N. G.
Kelly, J. R., lieutenant, 7th Infantry.
*Kensil, C. J., lieutenant, N. G. Pa.
King, H. R., lieutenant, Philippine Scouts.
King, W., lieutenant, Philippine Scouts.
*Knox, A. S., lieutenant, Ark. N. G.
*Lamb, C. J., lieutenant, N. G. N. Y.
Le Sage, J. C., lieutenant, Philippine Scouts.
*Lilenthal, A. W., captain, U. S. V.
*Lucas, E., captain, Ark. N. G.
McNally, P., lieutenant, Philippine Scouts.
Mosely, R. L., lieutenant, Philippine Scouts.
Moss, J. A., captain, 24th Infantry.
Moylan, P., lieutenant, Philippine Scouts.
*Mueller, F. L., major, N. G. Pa.
Neisser, S. M., lieutenant, Philippine Scouts.
*Nesbitt, H. M., lieutenant, N. G. N. Y.
*Newcomb, E. E., colonel, N. G. S. M.
*Nicholls, J. F., major, T. N. G.
*Niles, A. J., brigadier-general, Ok.
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*Opdyke, H. G., captain, N. G. N. J.
Ovenshine, A. T., captain, 7th Infantry.
Pagelow, J. A., lieutenant, Philippine Scouts.
Palmer, R. R., lieutenant, 6th Infantry.
*Pearson, R. M., lieutenant-colonel, Ark. N. G.
*Peeples, J. A., major, T. N. G.
*Pinney, W. B., captain, Ark. N. G.
Pitney, C. L., lieutenant, Philippine Scouts.
Platt, C., lieutenant, Philippine Scouts.
Prentice, J., lieutenant, A. C.
*Pringle, J. E., captain, Ark. N. G.
*Rankin, J., lieutenant, Texas N. G.
Rees, R. I., lieutenant, 3d Infantry.
Rexach, H. C., lieutenant, P. R. P. R. Infantry.
Rhea, J. C., captain, 7th Cavalry.
*Rhodes, J. W., lieutenant, Ark. N. G.
Ristine, B. F., lieutenant, 21st Infantry.

*Schirmacher, T., major, T. N. G.
Sliney, M. E., lieutenant, Philippine Scouts.
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*Whittaker, W., captain, Ark. N. G.
Whitworth, P., captain, 1st Infantry.
Winter, J.G., lieutenant, 6th Cavalry.
*Wood, G. H., captain, O. N. G.
Wray, G. M., lieutenant, Philippine Scouts.

Accessions to the Museum.

The Museum has received gifts as follows

Miss Anna Ruger, *One Sacred Ghost Dance Banner,* found by Lieut. D. E. McCarthy, Twelfth Infantry, flying at the top of a large cedar tree in the camp of "Big Foot," on the Cheyenne River, N. D., February 28, 1891.

Lieut.-Col. Nathan S. Jarvis, M. D., N. G. N. Y., *Oil Painting by Catlin,* of Fort Snelling, Minn., presented by the artist, in 1833, to his friend, Surgeon N. S. Jarvis, U. S. A.

Funeral Honors to our late President.

The Ruger Obsequies at West Point, N. Y., were exceptionally interesting, as will appear from the report of the Committee representing the Institution at the funeral.

Governor's Island, N. Y., *July* 10, 1907.

To the Secretary, Military Service Institution,
Governor's Island, N. Y.

Sir:—I have the honor to submit the following report:

Upon receipt of news of the death of Maj.-Gen. Thomas H. Ruger, U. S. Army, retired, who was President of the Military Service Institution, the Senior Vice-President, General Alexander S. Webb, immediately called a special meeting of the Executive Committee to meet at the Insti-

tution at 2:00 o'clock P. M. on June 4, 1907, to take action towards such official participation of the Institution, in connection with the funeral honors, as was deemed due its distinguished President.

Upon motion, duly made, it was directed that a special committee, composed of Gen. Alexander S. Webb, Col. H. O. S. Heistand and Col. John E. Greer, as official representatives of the Institution, attend the funeral at West Point, N. Y., June 6, 1907. The expenses to be borne by the Institution.

The committee, as above constituted, by special arrangement, met the funeral train as it proceeded from Stamford, Conn., to West Point, and traveled with the funeral party. Upon arrival at West Point it was learned that, at the special request of the family, arrangements had been made for a quiet and unostentatious funeral.

General Ruger had been Superintendent of the Military Academy and was held in exceptionally high esteem by the Academic Board and the officials of the Institution, who were loath to permit his remains to be laid to rest without an opportunity for them to testify their respect for his memory. The cortege, composed of a hearse and three carriages, which had met the party at the ferry landing, upon arrival in front of the chapel at West Point, was there met by the Academic Board and Academy Staff, and all of the officers on duty, present, in full dress uniform, with a Company of U. S. Engineers in full dress uniform as an escort, with a caisson draped and horse properly caparisoned. The senior member of the Academic Board present at the Academy, Col. Charles W. Larned, speaking for himself and his associates, asked if the members of the Academic Board might not be permitted to remove the remains from the hearse to the caisson and that the especial privilege be extended to the members of the Academic Board to act in the capacity of honorary pall-bearers from that point to the cemetery. The members of the family yielded and permitted, to this extent, a military funeral. After the ceremonies at the cemetery, the members of your Committee returned immediately to their homes.

Respectfully submitted,

(Signed) H. O. S. HEISTAND,
Chairman.

Soldier and Sailor in Uniform, and Public Opinion.

The Ames Prize (see full details elsewhere), for the best paper on "How May Public Opinion Concerning the Army and Navy be so Educated as to Secure to the Soldier and Sailor in Uniform the Consideration Ordinarily Accorded to the Civilian," will doubtless bring out some interesting views on this important subject. Essays submitted to August 10th are "Truth" and "Pro Patria et Gloria." The competition will close October 1st, next.

Journal of the Military Service Institution 1878 — 1907

Governor's Island N. Y. H.

THE JOURNAL

NOVEMBER-DECEMBER, 1907

OME papers approved for early publication in the JOURNAL:

I. "THE CONSTRUCTION OF HEAVY ORDNANCE." By Lieut.-Colonel Rogers Birnie, Ordnance Dept., U. S. A. (Ill.) Read before the Naval War College, Newport, R. I., July 30, 1907.

II. "THE GARRISON RATION: HOW TO IMPROVE IT." By Captain Arthur M. Edwards, Subsistence Department.

III. "ESSAY ON FIELD ARTILLERY." By Gen. Langlois. Translated by Captain S. Seay, 23d Infantry (for General Staff).

IV. "TEACHING INFANTRY AND CAVALRY THE VALUE AND MEANING OF ARTILLERY ACTION." (Translated from the Russian for the M. I D. General Staff.)

V. "TRANSMISSION OF MILITARY INTELLIGENCE." III. (Illustrated.) By Lieut.-Colonel G. P. Scriven, Signal Corps. (Continued from September number.)

VI. "THE IMPROVEMENT OF OUR CAVALRY HORSE." By M. F. de la Rue. (In type.)

VII. TYPES AND TRADITIONS OF THE OLD ARMY. "THE REGULAR ARTILLERY AT GETTYSBURG": I. "Cushing's Battery." By Lieut.-Col. F. Fuger, U. S. A. (retired). II. "Davison's Battery." By Lieut. Jas. Stewart, 4th U. S. Artillery. (Illustrated.)

THE PUBLICATION COMMITTEE invites contributions of original papers, translations and comments upon current topics. Attention is called to "Gold Medal," "Seaman," "Short Paper," and "Santiago" prizes described elsewhere.

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Gold Medal—1907.

***First Prize*—Gold Medal, $100 and Life Membership.**
***Second Prize*—Silver Medal, Honorable Mention and $50.**

I.—The following Resolution of Council is published for the information of all concerned:

Resolved, That a Prize of a Gold Medal, together with $100 and a Certificate of Life Membership, be offered annually by THE MILITARY SERVICE INSTITUTION OF THE UNITED STATES for the best essay on a military topic of current interest, the subject to be selected by the Executive Council, and a Silver Medal and $50 to the first honorably mentioned essay. Should either prize be awarded more than once to the same person, then for each award after the first, a *Clasp* shall be awarded in place of the medal.

1. Competition to be open to all persons eligible to membership.

2. Each competitor shall send three copies of his essay in a sealed envelope to reach the Secretary *on or before January* 1, 1908. The essay must be strictly anonymous, but the author shall adopt some *nom de plume* and sign the same to the essay, followed by a figure corresponding with the number of pages of MS.; a sealed envelope bearing the *nom de plume* on the outside and enclosing full name and address, should accompany the essay. This envelope to be opened in the presence of the Council after the decision of the Board of Award has been received.

3. The prize shall be awarded upon the recommendation of a Board consisting of three suitable persons chosen by the Executive Council, who will be requested to designate *the essay deemed worthy of the prize;* and also in their order of merit those deserving of honorable mention.

In determining the essay worthy of the prize, the Board will be requested to consider its professional excellence, usefulness and valuable originality, as of the first importance, and its literary merit as of the second importance. Should members of the Board determine that no essay is worthy of the prize, they may designate one or more essays simply as of honorable mention; in either case, they will be requested to designate one essay as first honorable mention. Should the Board deem proper, it may recommend neither prize nor honorable mention. Should it be so desired, the recommendation of individual members will be considered as confidential by the Council.

4. The successful essay shall be published in the Journal of the Institution, and the essays deemed worthy of honorable mention shall be read before the Institution, or published, at the discretion of the Council, which reserves the right to publish any other essay submitted for a prize, omitting marks of competition.

5. Essays must not exceed ten thousand words, or twenty-five pages of the size and style of the JOURNAL (exclusive of tables), nor contain less than five thousand words.

II.—The Subject selected for the Prize Essay of 1907 is

"THE MILITARY NECESSITIES OF THE UNITED STATES AND THE BEST PROVISIONS FOR MEETING THEM."

III.—The Board of Award is named as follows:

Major-General, JOHN P. STORY, U. S. A.
Brig.-General, WILLIAM H. CARTER, U. S. A.
Brig.-General, THOMAS H. BARRY, U. S. A.

GOVERNOR'S ISLAND, N. Y.,
Jan. 1, 1907.

T. F. RODENBOUGH,
Secretary.

OTHER ANNUAL PRIZES.

THE SEAMAN PRIZE.

(Founded by Major L. L. Seaman, M.D., LL.B., late Surgeon, U. S. V.)

First Prize. **One Hundred Dollars.**

Second Prize. **Fifty Dollars.**

For best two essays on a subject selected by Major Seaman and approved by Council; competition open to all officers and ex-officers of Army, Navy, Marine Corps, Marine Hospital Service, Volunteers or National Guard; in other respects same as Gold Medal prize except that essays are limited to 15,000 words, and are due November 1.

Subject for 1907: (*Relates to West Point and Annapolis only*)

"The Scope of Teaching that should be followed in the newly established Chair of Hygiene and Sanitation in our Military and Naval Schools, and the practical results to be expected therefrom."

THE SANTIAGO PRIZE.

(Founded by the National Society of the Army of Santiago de Cuba.)

Fifty Dollars.

For "best article upon matters tending to increase the efficiency of the individual soldier, squad, company, troop or battery," published in the JOURNAL M. S. I. during a twelvemonth; awarded upon recommendation of Board selected by President N. S. A. S. C.; competition limited to officers of the Army and National Guard below grade of Lieut. Colonel; essays not less than 1,000 nor more than 5,000 words; due December 1.

SHORT PAPER PRIZES.

HANCOCK PRIZE **Fifty Dollars.**

For best short paper on matters affecting the *Line* of the Army (due May 1).

FRY PRIZE **Fifty Dollars.**

For best short paper on matters affecting the *General Service* not covered by Hancock Prize (due Sept. 1).

Essays to be not less than 1,500 nor more than 3,500 words published in the JOURNAL during twelve months.

THE AMES PRIZE.

(Offered by Major General Adelbert Ames (late) U. S. V.)

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For the best essay on the following subject:

> **"How may Public Opinion concerning the Army and Navy be so Educated as to secure to the Soldier and Sailor in uniform the consideration ordinarily accorded to the Civilian?"**

Competition open to all persons eligible to Membership, or Associate Membership in the Military Service Institution; essays limited to 5,000 words; due October 1, 1907; conditions in other respects same as Gold Medal.

The Board selected to determine the relative merits of essays submitted is as follows:

GEN. THOMAS E. HUBBARD (late) U. S. Volunteers.
CAPT. CONWAY H. ARNOLD, United States Navy.
GEN. HORATIO C. KING (late) National Guard, N. Y.

Governor's Island, N. Y.,
April 10, 1907.

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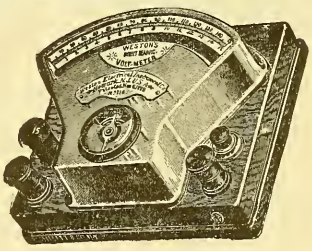

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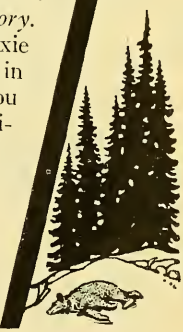

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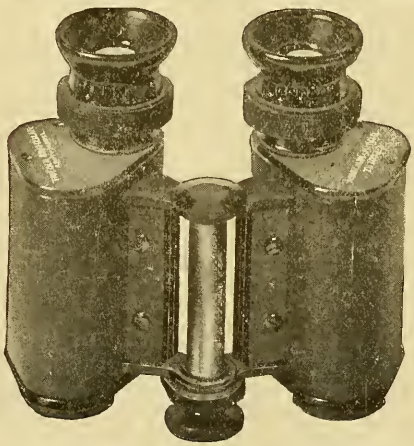

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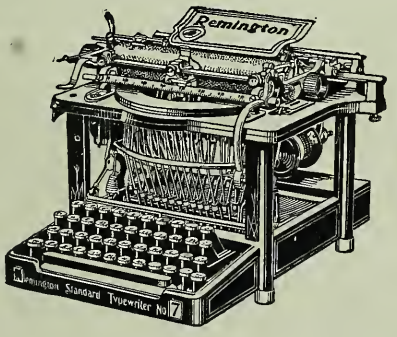

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